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POTENTIAL CARDIAC DISEASES IN CHILDREN

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Cardiac disease plays a very prominent part in our mortality and morbidity rate, having in recent years outstripped tuberculosis. We feel rather confident that, at least, a large per cent of these troubles have their beginning, or the foundation for their beginning, during childhood. Occurring at this time many of them go undiagnosed and neglected, resulting in a permanently crippled heart that breaks down in later years or is discovered more or less accidently by some routine physical examination. Even when the lesion is discovered early permanent disability is apt to follow regardless of how much care is bestowed upon the individual. The medical profession should not be held responsible for all the oversights here, as many cardiac cases do not come under observation until the lesion is well developed. But the insidious beginning makes it quite easy for a large number to be overlooked.

Now it is a matter of common knowledge that 80 to 90 per cent of the cases of organic heart disease in children are closely associated with a group of conditions fairly well recognized—the so-called rheumatic manifestations. It is by focusing our attention on this group that we are going to make headway against it. In other words, the best time to treat the cardiac case is before it develops.

The group of rheumatic manifestations consists of (1) recurring tonsillitis and pharyngitis; (2) acute rhemuatic fever; (3) myositis, muscle, bone and joint pains (growing pains); and (4) chorea. It might be thought advisable to include under a fifth heading scarlet fever, pneumonia, diphtheria and other infectious diseases. But it is not generally believed that these play a prominent role in the etiology of cardiac conditions. Individuals having one or more of the affections mentioned in the above group should be considered and treated as potential cases of endocarditis. If neglected, a certain per cent of them are destined to become cardiac cases sooner or later.

Tonsillitis might be considered as the fountain head of all the trouble. There is scarcely an organism with which we are familiar that cannot be found on the surface or in the crypts of tonsils that are chronically diseased. In their hypertrophied state there is a rapid, abnormal growth of tissue with an increased surface area and vascularity. The infecting organisms may be limited to the mouths of the crypts, they may have gone deeply into the crypts, or may have infected the lymphatic tissue. The openings of the crypts may close and the deeper portions become minute, encapsulated abscesses. Owing to the hypertrophy and increased vascularity it is quite easy for infectious agents to enter directly into the system and there select and attack vulnerable tissues. Especially can such activities be ascribed to the various members of the streptococcus group. The endocardium happens to be one of the vulnerable points.

We must remember that the symptomatology of *acute rheumatic fever* in early life is quite different from that seen in older persons. It is not common under four years of age. In many instances the only symptoms are indefinite pains in the extremities, often not located by the child in the joint at all. There may be a little stiffness of the joints or lameness with a slight elevation of temperature. This often goes no higher than 100 degrees F. These symptoms may last only one or two days or a couple of weeks. The more severe cases may have definitely localized pains, show some swelling and redness about the joints and quite a little fever. However, the majority of them run a very low temperature and are not sick enough to want to stay in bed. So we are dealing with a very mild and innocent ailment that makes little impression on the untrained individual. At the same time it is apt to lead to the most serious consequences. We have fairly accurate information to the effect

that, if neglected, from 50 to 75 per cent of these individuals will sooner or later be victims of cardiac disease. And another important point is this—cardiac conditions are just about as apt to develop in the mild cases that are not sick enough to go to bed as they are in the most serious ones. And we also have reason to believe that if properly cared for only a small per cent need have diseased hearts. Parents must be informed of the dangers and given a chance to cooperate. During an attack the child must be put to bed until the symptoms have disappeared and until one is sure the heart has escaped. The salicylates can be used and in my opinion are helpful. A five year old child can take five grains of the salicylate of soda with an equal amount of the bicarbonate every three hours. Infected tonsils should be removed as soon as the acute symptoms have sufficiently subsided. Sinus infections should be looked for and the teeth should be carefully checked by a competent dentist.

By *myositis* is meant such conditions as torticollis. *Muscle*, bone and joint pains, include such pains as occur in the limbs and about the muscles and joints—popularly known as growing pains. Such conditions actually belong to the rheumatic group and are potential cases of cardiac disease. Children presenting such symptoms should have careful attention. Here too, all possible foci of infection should be eliminated. Diseased tonsils should be removed as soon as possible. There should be the same careful attention to teeth and sinuses as is urged in the presence of acute rheumatic fever.

Chorea or St. Vitus dance is more common between the ages of five and fifteen years, much more common in females than in males, occurs most often in the spring and is more apt to be seen in children of neurotic families. The disease itself is distressing but generally not serious except for one thing—cardiac involvement occurs in from 25 to 50 per cent of the cases. So when we see this condition we must think first and last of the heart. Rest, food and time are the most important elements in the treatment. Proper amounts of bromides or even opiates should be given when necessary. Aspirin has proved to be a very useful drug and is considered a specific by some good men. Infected sinuses and abscessed teeth should be corrected even during the attack. Tonsillectomy is nearly always advisable but should not be done until after the acute stage has subsided. Given the same amount of care and attention, a higher per cent of the chorea cases will finally develop cardiac disease than will any of the other conditions mentioned.

Now, a few words about acquired cardiac disease itself—more especially endocarditis. Few conditions of childhood deserve more careful study and investigation, or have a greater bearing on the child's future well being. It does not commonly show up under the age of five. The beginning is nearly always insidious in nature and easily overlooked. The most important single symptom is temperature. This is not high. A persistent, low-grade fever, associated with any of the conditions that have been discussed should arouse suspicion. It is apt to be irregular, running a somewhat septic course. An increasing pallor is significant. Failure to gain weight, headache and frequent nose bleed are suspicious. A rapid pulse is a very important sign and if persistent should be considered cardiac disease until proven otherwise. As a matter of fact all kinds of symptoms are seen except those that might be referable to the heart itself. These are strikingly absent. No palpitation, no precordial pain, no distress whatever as a rule. In examining the heart, the rate should be noted first. Inspection may show the cardiac impulse over a somewhat widened area if the condition has been running for some time. Palpable thrills are not very common. The stethoscope generally gives the earliest dependable signs of all. At first we have merely an impurity or muffling of the first sound, which later develops into a murmur with an accentuation of the pulmonic second sound. As the disease progresses subsequent developments bring about changes and results in the characteristic findings that are fairly easily recognized.

A few years ago St. Lawrence' made a study of 100 cases of cardiac diseases in children to determine the relative frequency of the various rheumatic manifestations associated. His findings were:

Acute rheumatic fever	52%
Recurrent sore throat	7%
Muscle, bone and joint pains	9%
Chorea	15%
Both acute rheumatic fever and chorea	7%
No rheumatic manifestations	10%

The same investigator took 65 children showing some of the various rheumatic

manifestations but free from cardiac involvement when first seen and observed them over a period of four and one-half years. Everything possible was done to prevent the development of cardiac disease. Among this group there were 16 cases of uncomplicated acute rheumatic fever; nine cases of this associated with chorea; eight cases of myositis, bone and joint pains, and 32 cases of chorea. During the period of observation 16 cases of heart disease developed, all of which were in children having chorea. The conclusion is that among the potential cardiac group that go uncared for acute rheumatic fever is the most formidable condition. Of those receiving close attention chorea is the most dangerous. In other words, no matter what you do for the chorea cases, a fairly high per cent of them will, at some time or other have cardiac disease—39 per cent of the above series.

Then, to sum up, when children are brought to us with recurrent tonsillitis, symptoms of acute rheumatic fever, complaining of repeated muscle and joint pains (especially in cold damp weather) or showing signs of chorea, they should be immediately classified as potential cases of heart disease. Parents should be told of the danger and advised to keep such a child under medical supervision until it is 12 years of age. In nearly all such an early tonsillectomy is indicated. Teeth must be carefully watched and sinuses checked. All possible foci of infection must be eradicated. During acute symptoms put them to bed and use the salicylates when indicated. All subsequent attacks of pyrexia should receive careful attention. It is entirely reasonable to believe that a more general following out of such measures will, in a few years' time, bring about a marked reduction in our death rate from heart disease.

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REFERENCE:

1. St. Lawrence, William T.: Potential Cardiac disease and Prevention of Organic Heart Disease in Children, J. A. M. A. 78:947-953, April 1, 1922.

FEEDING AND CARE OF INFANTS.

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The pediatrician is a practitioner of preventive medicine and should feel that the health and strength of the future generation are within his guidance. We know how many of the chronic diseases of the adult, such as rheumatism and heart diseases of middle and later life, can be traced to infections of childhood.

Frequently, in the examination of the young nursing baby with tonsil infection, the only sign is fever which is attributed to the stomach or cutting of teeth. An infant with fever the only symptom, the throat, ear and urine should always be considered. The child of pre-school age rarely ever complains of sore throat and upon inquiry will deny having pain, which may or may not be true, but when inspected the throat will often show a well developed case of tonsillitis. In otitis media, the restless infant with a severe cold, fever and who cannot sleep should have the ears examined. The drum may be found red or bulging, or it may appear normal, but if the mother tells you the baby is unusually cross you should recheck. It is not always the red bulging ear drums that tells the story and if you decide to puncture, you most probably will find pus. In making the diagnosis, we must carefully consider the history the mother gives. After excluding the throat and ear, the other exciting cause of fever, especially in the female child, is pyelitis. If the infant has higher fever than he seems to be sick, we can almost make a diagnosis of kidney involvement without a urine examination. Every specimen of urine does not contain pus cells so it may be necessary to examine several before they are found. The question of the best time to remove tonsils often presents itself and the answer is to have them removed regardless of age when the infant or child has repeated attacks of tonsillitis and on the whole is not doing well, has no appetite and is not gaining in weight as a child should for his age and surroundings. There is nothing to which he responds more miraculously and satisfactorily to all concerned than that of a tonsillectomy, when needed. As for the red bulging ear drum or the one that may not show these symptoms but from all indications is the seat of trouble, a puncture should be made and this will not only relieve the child's pain but may prevent a mastoid operation or organic complications.

In feeding it is understood that breast milk is the most ideal, but it must be remembered that breast milk does not always prevent nutritional disturbances. The child may have scurvy, rickets and tetany as on artificial food so it is quite

important to regulate the mother's diet not only after the baby is born but also before the birth. In checking these babies with X-ray, we find that where the mother has not had proper diet, as in vomiting of pregnancy, which continues throughout the term, the child is born with rickets and though he may be above the average in weight, the condition is present. I have been giving my expectant cases Oscodol or Acterol to aid the absorption of calcium and it will be interesting to X-ray these babies for rickets during the first few weeks of life, then to compare them with the babies whose mothers have not had similar treatment. We are told that 100 per cent of the infants in certain parts of the United States and about 60 per cent in the Southwest, have rickets. As yet, we have no sure preventative in the incipient or mild stage, but sunshine and cod liver oil will do much in retarding the advanced stage. Clinically, the incipient form cannot be detected and it takes the X-ray to determine these mild forms, and someone specially trained to interpret the plates.

Recently, I have had some interesting surprises with my clinically 100% babies, with the realization that an absolute preventative in rickets has not yet been found. Their diet varied and they were about equally divided; breast milk, cod liver oil and sunshine; lactic acid milk, cod liver oil and sunshine; modified sweet milk with cod liver oil and sunshine. There were twenty-three of these babies (the average age was 10 or 11 months), six of whom had been on a vegetable lactic acid milk without cod liver oil or sunshine, and the X-ray did not show any sign of rickets. This method of feeding with the X-ray findings, will be given in detail in a later paper.

There are many methods by which an infant may be fed sucessfully, but there are only a few results that need to be considered. In fact much depends upon the mother, and we can tell with almost certainty what success to expect when she expresses her knowledge of infant feeding. Unfortunately, we all occasionally have the mother who will not mean success, as common sense plays equally an important part as science in feeding her child. You cannot measure the same amount of milk to all babies of the same age; some will take more and some will take less; a baby on the breast will take all he wants and a baby on the bottle should have the same privilege. I had a mother with retracted nipples who could not nurse her baby, so he was at once fed l a c t i c a c i d m i l k, but was not satisfied until he had four ounces, which was as much as a two month old infant should have. This amount was given with no ill effect during his stay at the hospital, but a satisfied baby. On the whole, so long as we feed a clean, digestible food, containing the proper food elements and sufficient number of calories, we will meet with success, regardless of the method used. However, we must must also use a little art. If the mother tells you that she cannot stand the odor and appearance of lactic acid milk and that she is sure her baby cannot take it, it would be foolish indeed to use that feeding, as her mind is already made up and any other method would be more advisable.

While many things enter into successful infant feeding beside a supply of pure milk, that, of course, is to be considered first. Poor milk is perhaps the cause of most of the deaths due to the fact that it is easily decomposed and an excellent media for bacterial growth; since it is difficult to transport and deliver in a clean, satisfactory condition which will insure its keeping, lactic acid milk has forged ahead rapidly. After lactic acid has been added, the milk will keep at ordinary room temperature and bacteria will not grow in it. For that reason lactic acid milk makes an ideal summer food for this part of the country and that alone is sufficient evidence of its superiority over sweet milk, without considering the buffer substance of cow's milk being neutralized and the baby receiving more calories.

Of late I have been using evaporated milk, acidified, and find that it has its advantages. It is easier to prepare this as there is no boiling and there is no scum to clog the nipple. The fat globules are finely divided and cream does not rise to the top of the milk mixture. When fat is evenly distributed throughout the mixture, it is more easily digested. As protein is a tissue builder of the milk it is an important factor in infant feeding. This value has not been destroyed in any way and is readily digested and perfectly metabolized. The vitamins seem to be as staple in evaporated milk as in mother's or raw cow's milk, but it is quite necessary to add the extra vitamins as you would if the baby were wholly on the breast.

Summer diarrhea is purely a preventable disease, and the reduction in mortality has

been done through prevention. Much has been accomplished by later methods of treating these conditions as overcoming dehydration with saline or Ringer's solution intraperitoneally; the use of glucose and blood transfusion, either citrated or direct method. The stools may be almost normal but still these babies die of severe toxemia.

Conclusions:—Pediatrics is a practice of preventive medicine.

First, by building up a resistance in the child that he may overcome disease.

Second, by the early removal of all foci of infection that the child may not be handicapped with an organic complication.

Third, by educating the parent in regard to diet, dress, flies and other things which may lower the child's resistance during the hot summer months and in so doing prevent the dreaded summer diarrhea.

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JEJUNOSTOMY—INDICATIONS —TECHNIQUE*

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In watching patients die from so-called paralytic ileus, operative or otherwise, mechanical ileus and acute diffuse peritonitis, the careful observer cannot but be struck squarely by the similarity of the clinical picture. All of them are the deaths of *intestinal obstruction*, the picture of which need not be portrayed here to this audience for unfortunately all of you have seen it only too often.

Advisedly, the writer said "operative or otherwise" in referring to paralytic ileus. This type of ileus may appear in diseases entirely non-surgical. Personally it has been observed post-partum, in pneumonia and other diseases explain it as you will, indirectly through the sympathetic nervous system or directly by irritation of peritoneal membrane.

As the writer sees the indications for the operation of jejunostomy they are:

1. Ileus paralytic.
2. Ileus mechanical.
3. To supply nourishment and fluids in proximal leakages and obstructions.
4. To supply nourishment and fluids to the body in certain cases of incessant vomiting wherein everything is rejected and the patient is dehydrating and starving, such as hyperemesis gravidarium, etc.
5. Acute diffuse septic peritonitis.

ILEUS PARALYSIS—ADYNAMIC ILEUS

This condition following abdominal operation is always distressing, sometimes dangerous and occasionally fatal. While it lasts it constitutes as positive a hindrance as a mechanical obstruction. In advanced cases reverse peristalsis with fecal vomiting, that is, the vomiting of large quantities of regurgitated intestinal contents occur, so called acute post-operative dilatation of the stomach is in my opinion but a terminal phase of the clinical syndrome, except in those recurrent attacks of acute dilation due to duodenal obstruction by the musculus suspensorius duodeni and the superior mesenteric artery—that syndrome known as gastro-duodeno-mesenteric ileus. In fact this very condition is sometimes precipitated by the post-operative paresis and is relieved by the stomach tube.

Adynamic ileus in its advanced stages is just as surely an obstruction of the bowels as is the mechanical form. It just as surely leads to regurgitant vomiting and toxemia. I am convinced by looking backward over my own work that preventable surgical deaths have been caused by this complication.

Relatively, ileus is rare in our work at the present time, due to preventative measures. Just what do we mean by prevention? We mean: (1) Preoperative preparation which above all things does not mean cathartics, but the most studied avoidance of them. (2) Anesthesia which is rarely profound and consists in local alone of local plus gas, either, nitrous oxide or ethylene. The anesthetic administered by a trained anesthetist who is instructed that if there is to "be a fight, let the surgeon have it." The refractory patient is not to be whipped down with an overwhelming dose of anesthesia. (3) Gentleness in operative manipulation of abdominal viscera and no atmospheric exposure. Hot saline packs are better than no protection, but there is no shelter for the abdominal organs equal to the abdominal cavity. If force is necessary to deliver, it is far better to carry the operation to the organ rather than the organ to the operation, but is more difficult. (4) Reason-

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able speed without haste. Unquestionably, the more prolonged the operation, the more the exposure; the more the manipulation, the greater the liklihood of all kinds of complications including paresis.

To be sure all this is prevention, but certainly well worthy of consideration:

ILLUSTRATIVE CASE REPORT—ADYNAMIC ILEUS—POST-OPERATIVE

G. N. W., male, 61 years of age, consulted the clinic first, April, 1926.

Family History: No bearing.

Personal History: No bearing.

Consults clinic for attacks of severe cramp-like epigastric pain requiring hypodermics of morphine for relief. These attacks began six years ago and have been increasing in severity until of late they recur as often as every two weeks. Pain is transmitted to scapular region, so severe that collapse often follows. Very little if any fever.

Physical Examination: Shows a fairly well nourished, large framed man, temperature 99, pulse 96, blood pressure 110-80. Pupillary and general reflexes are negative. Glandular system negative. Mouth: pyorrhoea with recession of gums, tonsils submerged and infected, sclera shows a slight icteric tinge. Chest: heart tones distant, no murmurs, lungs are negative. There is marked tenderness over the right epigastrium to both pressure and fist percussion. Liver and spleen not palpable. Eyes: left shows pterygium. Ears: drums whitened, hearing impaired. Urinalysis was negative.

Diagnosis: 1, pterygium left; 2, pyorrhoea; 3, tonsillitis, chronic, infected; 4, appendicitis, chronic, catarrhal, recurrent; 5, cholecystitis, chronic, catarrhal recurrent with stones.

Advice: Pterygeo-mectomy, tonsillectomy, extraction of teeth, cholecystectomy.

Operation at this time refused.

Patient again consulted the clinic July, 1927, after just having had the most severe attack of all, ready for operation.

Operation: July 12, 1927, appendectomy, cholecystostomy.

Operative Remarks: Great rigidity and resistance which could not be safely overcome with the anesthesia was encountered. The gall bladder was deeply situated and contained many millet-seed and cherry-pit sized biliverdin stones with putty-like debris. Under these conditions, the difficulties and dangers of a cholecystectomy would have more than counter-balanced a drainage so a cholecystostomy was done. Massive old and organized adhesions were found in the appendiceal region indicating that at some time in the past, this patient had had an acute appendicitis with local peritonitis. An appendiceal stump was found and removed. Drain carried to the region and the abdomen closed with considerable difficulty. Operation from beginning to finish was difficult and required much manipulation.

Postoperative notes on this case shows that for two days convalescence was normal. On the third day the records show this entry: "distension of bowels from intestinal paresis which began early this morning, continued to increase throughout the day until 10:00 p. m., regurgitant vomiting began, condition critical."

An attempt at lavage failed, patient resisting. Condition becoming very dangerous, a jejunostomy was decided upon after consultation with Drs. Rucks and Robinson of the clinic.

This was done by the writer under local anesthesia by the bedside. A tube was placed in the jejunum with immediate escape of large volumes of gas, the patient expressing immediate relief. The next day the following note appeared on the record: "Improvement marked, gas and fecal matter discharging freely through tube, vomiting has ceased, pulse slowing. Evening improvement very marked."

Convalescence from this time on uninterupted.

Ileus Mechanical: It is not the purpose of this paper to enter into the many causes of mechanical ileus. The results of all are the same. In passing it may be remarked that the higher the obstruction, the more acute the case. Also in differentiating mechanical from paretic ileus, one should always recall that in the beginning because of the strenuous efforts of the bowels to drive past the obstruction, the abdomen is extremely noisy and will continue so until the obstruction is overcome or intestinal paralysis ensues, while in the latter the belly is as silent as the grave from the start. In the late stage it is impossible to differentiate except from the history.

Unfortunately the majority of cases are brought to operation late. Nor can we who have the advantage of observing cases in well equipped hospitals escape this criticism. Many post-operative and peritoni-

tic cases are permitted to die from toxemia because of surgical cowardice.

In all cases of obstruction of the bowels whether paralytic or mechanical, there is a blood shortage in chlorides and calcium as shown by the work of Orr and Hayden, and this in turn chokes down the kidney excretion. Duodenal and jejunal stasis breeds exceedingly active and poisonous toxins elaborated from the pancreatic gastric, duodenal and jejunal secretion. The action of these toxins are well known although they have never been isolated, their action is noted late in low, early in high obstructions.

Also the relief in jejunostomy is prompt in contrast to delayed relief in low ileostomy. The reason is that immediate and direct drainage is offered to the pent up poisonous products by jejunostomy while delayed and indirect drainage is offered by low intestinal openings. Such low drainages are also dependent to a great extent on a slowly awakening peristalsis in a paralyzed gut.

The blood shortage in chlorides and calcium can and should be made up as advised by Orr and Hayden. This will often carry the patient over the critical stage.

It is only in late obstructions the jejunostomy is advocated. Early obstructions, while the patient is in good condition, should be dealt with radically. The late cases are to be dealt with as two-step operations, the first step of which is the intestinal drainage and the second step the relief of the obstruction.

Jejunostomy offers a clean field for this as against an infectious field in low ileostomies, since the large majority of obstructions are low ileal.

SUPPLYING NOURISHMENT AND FLUIDS IN PROXIMAL LEAKAGES

While the third indication—supplying nourishment and fluids in proximal leakages—is rare, still, as a surgical accident it will occur. In my own personal experience I have seen three duodenal fistulae, the patients dying, and which probably could have been saved by a timely jejunostomy. Duodenal fistulae occurring in the extra-peritoneal portion of the duodenum, such as some times follow the removal of an adherent right kidney constitutes a real surgical problem, in that the patient rapidly dehydrates and starves. Because of being uncovered by the peritoneum its surgical repair is difficult. Receiving the output of pancreas, stomach and liver, physiological rest of the duodenum is impossible. Whatever is put into the stomach, pours out of the fistula. An early jejunostomy will supply fluids and food and thus give the surgeon a chance.

What is true of leakages is also true of obstructions in this location. But mostly it is to be utilized as a palliative in such gastric or low esophageal obstructions as occur in malignancies. When and where it is possible to do a palliative gastro-jejunostomy it should be given the preference.

TO SUPPLY FLUIDS IN PATIENTS DEHYDRATING AND STARVING FROM PERNICIOUS TYPES OF VOMITING

The fourth indication—to supply fluids in patients dehydrating and starving from pernicious types of vomiting—is approached with some trepidation. I broach this indication tentatively. There is a field for argument here. I have not tried it as I have in all the other indications already and yet to be mentioned. But all will agree with me that the urgent call is for fluids in this condition. With a supply of fluids, these patients may be tided over, without it many of them die. All of us will agree, too, that intravenous, subcutaneous and rectal administration while invaluable, have their limitations.

If an operation can be carried to the patient without mortality, morbidity or shock which will supply this need for sufficiently long time it seems to me some of these patients otherwise doomed, may be saved.

As stated, this proposal and argument is as yet purely acedemic, since so far as I know, it has never been tried for this condition.

ACUTE DIFFUSE SEPTIC PERITONITIS

The fifth indication—acute diffuse septic peritonitis. Results in the treatment of this most formidable disease can yet be improved. While results of modern treatment are far superior to the old plan of management, the death rate by and large is still not far from 20 per cent.

Death is not due to the absorption of inflammatory products, nor to the extent of the inflammation as was formerly believed. It comes about through the absorption of pent up duodenal secretions precisely as it does from obstruction of the bowels. There can be no more complete obstruction than that of an intestinal paresis due to an acute spreading peritoneal inflammation. The most violent cathartics will not incite

peristalsis. This was learned at the time some 30 years ago when the saline treatment was being urged. It was found that this treatment only hastened the end. Without peristalsis, there is no intestinal movement.

The logical thing to do is to drain the toxic material. Also with the complete stasis, gas forms rapidly which still further distends the paralyzed bowel. The course of peritonitis is first a retracted, hard belly, next a distended abdomen not so hard.

ILLUSTRATIVE CASE

G. E., boy, 17 years of age, brought to Wesley Hospital under the care of the clinic, February 26, 1928.

Family history and personal history: Negative.

Present attacks began three days ago with diffuse abdominal pains, nausea, vomiting and tenderness. This pain soon localized in the right lower quadrant. The patient is a well developed boy, temperature 101.2, pulse 100, respiration 21. General physical examination was negative except marked rigidity and tenderness in the right lower quadrant. No masses palpable. White blood count 31,100; Polys 93; S.L.3; L.L. 4. *Diagnosis*: Appendicitis, acute suppurative. *Operation*: Immediate appendectomy, 4-inch semilunaris incision, drainage, anesthetic, ethylene and oxygen with local.

Operative Remarks: The appendix was fixed, retrocecal, gangrenous throughout, with abscess fromation. Because of the infection, no further exploration of the abdomen was made. Before bringing up the appendix and opening the abscess the abdomen was carefully cofferdammed with gauze, making the protection of the cavity complete. Drain carried to appendiceal stump.

Postoperative note four days later: "March 1, 1928, patient's condition not good, abdomen is much distended, muscles rigid, diffuse general peritonitis, restless. pulse 130, temperature 100, condition extremely critical. At bedside a jejunostomy was done. Large quantities of gas escaped with immediate relief. Intestines and peritoneum agglutinated, dusky red in hue."

Fecal matter soon followed the gas and the patient convalesced uneventfully up to March 13, 1928, when this entry appeared: "Wounds dressed, drainage less, right incision strapped, Balsam Peru applied, complaining of paroxysmal abdominal pain, vomited."

These attacks which were diagnosed as partial obstruction of the bowels were treated successfully by enemata until March 21, 1928, this entry appears: "After repeated attacks of acute partial obstruction of the bowels within the past 24 hours, this has become complete and has been associated with copious fecal vomiting, these attacks have followed temporary closure of the jejunostomy opening. This has been completely closed for the past 48 hours, during which time this attack has appeared, developed and become complete. A low median, 2-inch abdominal incision was made under local anesthesia with the patient lying in bed and a low ileostomy was done. No search made for obstruction. Patient was pulseless and in collapse. Gas and fecal matter began escaping immediately.

It was noticeable that the relief was not so immediate as in jejunostomy. The reason: poisonous material must be drained through entire length of gut to ileostomy before escaping. At this writing patient is doing well, but another operation will have to be done to relieve the obstruction. It was notable that the inflammation had all subsided.

This case proved beyond question the life-saving character of the jejunostomy in a patient practically hopeless. It also shows the relative relief following a high and low enterostomy.

TECHNIQUE

Any patient requiring an enterostomy of any kind is usually a precarious surgical risk. If the patient is seen early enough that he is a good risk, a complete operation is indicated and is to be planned.

It is clear then that the operation should carry no shock. Every energy of the patient must be conserved. First of all then, the patient is not to be transported to the operating room, the operation should be carried to the patient and not the patient to the operation.

Of equal importance is the anesthetic. It is *never* to be general; all general anesthetics are like an overdose of medicine in that they waste and do not conserve a certain amount of the patients' vitality—chloroform the most, ether next, gas and oxygen least of all, but in these exhausted, almost dying patients, a featherweight is often sufficient to break the balance in the scale.

The mastery of local anesthesia is here fundamental. It combined with "surgical strategy" and bedside operating will often safely carry the patient across the *tight rope* spanning the gulf of danger.

When a jejunostomy has served its purpose, it must be so made that it will spontaneously close with minimal damage to bowel and with such adhesions as may ensue not of the damaging kind. For years, the writer has been emphasizing that adhesions *per se* are of no consequence. That only when they "obstruct a hollow viscus or compress a sensitive organ are they to be feared."

Coffey of Portland has pointed out the fact that all the ducts of the body take an oblique course through the walls of the viscus with which they communicate and into which they discharge their secretions, this insures no reflux back into the organ or discharging viscus. The only time the duct is open is when it is discharging. The greater the pressure in the receiving viscus, the tighter is the duct closed. On this principle he has made the first uniformly s u c c e s s f u l one-step uretero-sigmoidal transplantations.

The same technique is to be applied in doing a jejunostomy.

An incision of a few inches in length is carried down the left linea semilunaris from the point of the 10th rib. The loop of the bowel presenting is jejunum. It can be recognized from its greater size and the greater thickness of its walls. This loop is now gently coaxed out through the incision. An incision of its wall, an inch to an inch and a half is made opposite the mesenteric attachment, is carried through all the coats down to the mucosa. At the distal end of this incision an opening large enough to admit an average sized adult soft rubber urethral catheter which is introduced and secured by a purse string inverting and fixing suture. The catheter is low laid along the gutter and Lemberted under the length of the incision. An opening is made through the transverse mesocolon through which the free end of the catheter is drawn and the abdominal incision closed with the catheter protruding.

The free end may be connected to rubber tubing sufficient that the end may rest in a jar of water at the bed-side and escaping gas noted.

Fluids and liquid foods may be given through the tube as indicated.

SOME POINTS IN THE USE OF LOCAL ANAESTHESIA*

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BLACKWELL

I shall discuss a few "points" in the use of local anaesthesia under four headings, namely: (1) The Motives for the Use of Local Anaesthesia; (2) The Materials; (3) The Means, and (4) The Methods.

First, *The Motives*: Frankly, this paper is dictated by a desire to popularize the use of local anaesthesia, to stimulate study of its indications and advantages in a far wider range of surgical conditions than, it is to be feared, many surgeons appreciate as possible. The writer is tempted to say at the outset that he believes the wider application of local anaesthesia is as great an advantage in the field of surgery as was the discovery of the general anaesthetics. In my opinion we are only at the threshold of the possibilities of legitimate local anaesthesia. For even today the pioneer who has become the master can thus with ease and comfort perform complicated and difficult operations which the novice and the uninstructed surgeon dare not even attempt. The writer has faith to believe that in the not distant future we shall find means and methods of local anaesthesia which will make feasible many more operations which as yet are outside the range of our possibilities. But for the realization of this desirable accomplishment we shall need further study, research, experience, new recruits, and more surgeons who are willing to acquire the art.

For the application of local anaesthesia is an art as well as a science and its acquirement demands a willingness to learn its requirements. It is true there are difficulties to be overcome in mastering the refinements of the technique, but the difficulties can be overcome, the fine points can be learned, and it behooves those of us who desire to be in the forefront of medical progress to make larger use of this means of anaesthesia. I believe the day is not far distant when those in charge of our medical schools will give courses in the teaching of, and training for local anaesthesia as an essential and fundamental requirement of the medical curriculum.

If it be maintained that local anaesthesia

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has its discomforts for the patient, that it is more time-consuming and demanding of nervous energy for the surgeon, it is equally true that the surgeon has no rights as regards his own ease and the rapidity of operation when those rights run contrary to the safety of the patient. The patient's welfare is—or should be—our only consideration. If the best interests of the patient would be furthered by local anaesthesia, and the operation can be done efficiently under local anaesthesia, without too great discomfort during the operation, the surgeon has no choice but to make use of this method. It is an established fact that ether and chloroform often give rise to toxic and degenerative processes both immediate and late, that the cerebral congestion, the resultant nausea and vomiting, gastric and intestinal stasis, are serious disadvantages; their effect in reducing the alkalinity of the blood and in causing acidosis may be fatal; their use necessitates a larger nursing staff and more troublesome after-care with more cost to physicians, hospital and patient. There is a most striking difference in the post operative condition of the patient, operated under local anaesthesia and the average ether patient. The aspect of utter misery, the nausea, straining and vomiting are replaced by one of well-being and comparative comfort. The necessity of gastric lavage, of the Murphy drip and intravenous medication are reduced to a minimum. This is of particular advantaage to those of us who are "on our own" in smaller communities in charge of hospitals and without the services of expert anaesthetists and assistants. Judging from my own experience I believe if in a surgical hospital all operations were done under local anaesthesia the nursing force could be reduced a third or a half with advantage to the best interests of the patients.

As regards *Materials*—anaesthetic drugs—there is this to say: The drug must be of such character and it must be administered in such manner that it really produces anaesthesia. In other words, the anaesthetic must anaesthetize. Psycho-anaesthesia is efficient only to a minor degree. To measure the method of local anaesthesia by the endurance of the patient is unfair, for many individuals will not endure pain—and real anaesthesia is essential to the comfortable and successful performance of operations. Furthermore, our local anaesthetic substances must be *safer* than the general anaesthetics, else there would be no point in using them. Scientific tests and clinical experience indicate that the average surgeon can well limit himself to novocaine—and perhaps quinine and urea hydrochloride for its prolonged after effect. These have the highest ratio of anaesthetic action to toxicity. Incidentally, it is my belief that the use of cocaine should be limited to surface applications for intranasal operations, combined with adrenalin for its hemostatic action and its influence of prolonging the anaesthesia. Novocaine and quinine urea provide all the essential drugs. They are safe, easily obtained, and suitable for practically all purposes, and can be used in large amounts (we have given more than 100 cc. in 1-2 per cent solution) and the average surgeon needs to experiment with no others.

The Means of administration of our meterials may range from the simplest to the most elaborate. As a rule, the simpler the better. Good, non-leaking syringes, 5 to 20 cc. capacity, preferably of glass but with metal plunger, so made that they can be easily, yet firmly held in the hand, with sharp needles of various lengths as small in calibre (20 to 23 gage) as is consistent with their length, and with an open lumen, these are requisite. Other essentials are a knowledge of neural anatomy and ability to locate the bony and other landmarks of the body. There is required further the ability to instil confidence into the mind of the patient as well as to inject anaesthetic substance into his tissues. There is no question that the sensitiveness of the patient to pain is largely dependent on psychic; on apprehension and fear—and the ability of the surgeon to dispel these will to a large extent spell the measure of his success with local anaesthesia. Patience and gentleness both with the patient's mind and with his tissues and organs is needed.

In fact, if it were not for fear of discouraging possibly the timid and slothful and fearful from seeking to acquire the necessary skill, I would say that for the successful use of local anaesthesia we must develop and employ a new technique in our surgery, one of gentle intelligent handling of tissues and organs. We need to cultivate a new respect and reverence for these; we need to develop a deliberateness and to have a prevision of the results of each step in the procedure. Assistants, also, need to be trained in the new technique. Only too often an unskilled movement, unnecessary roughness, even a tactless word can prevent the successful completion of an

operation under local anaesthesia. Nor is the average assistant (nor anaesthetist) a competent psycho-anaesthetist, usually; mere verbosity does not satisfy the requirements, and not every would-be-assistant is willing to devote himself to acquiring the assistants' instinct. It is desirable to develop such an assurance of technique in administering local anaesthesia that it will not be necessary to inquire constantly of the patient: "Does this hurt?" The surgeons' knowledge of his materials and their proper use, combined with a knowledge of the nerve supply of the region and skill in the method of administration should make him certain that sensibility has been abolished in the operative field previous to each advancing stage of the operation. For example: arteries and veins should be seen and clamped before division. It does not add to the equanimity of the patient to see blood spurting from his body over the surgeon and his surroundings, nor to hear it drip upon the floor or in the waste pan. And in dividing vessels of any size, we need to remember that they are usually accompanied by nerves which resent division unless they have been anaesthetized.

It is essential in the use of local anaesthesia for the surgeon to have in mind a definite plan of procedure, to be able to foresee the need and the result of each step in the course of the operation. In other words, we must have in mind a logical sequence of action. Necessarily, the field of anaesthesia is relatively small, and unanaesthetized tissues outside the field of anaesthesia do not tolerate pulling and hauling and other inconsiderate treatment. For example: the viscera are in general non-sensitive, but tension on pedicle or mesentary is painful. Thus, the use of local anaesthesia presupposes and stimulates a more careful preoperative diagnosis, and weighing of clinical and laboratory findings, and makes it necessary for us to have a mental picture of the pathology which we plan to correct. Thus, the use of local anaesthesia makes for more painstaking, careful, conscientious care in preoperative diagnosis, demands more attention to detail in the operation. It allows more meticulous work, will make for better surgery and more skillful surgeons, and saves the patient extra burden of dehydration and the toxic action of the general anaesthetics. Hence, it is essential that by visiting clinics, by observation, reading and research, experiment and experience we perfect ourselves in the art and technique of local anaesthesia.

Preliminary preparation for local anaesthesia requires practically no restriction of food and fluids. This is a boon to many starved and dehydrated individuals with diminished alkalinity and vital resistance.

A restful night preceding the operation contributes greatly to the comfort and success of the operation. The bromides, combined with chloral, codein, luminal, allonal and barbital are all of value. Morphine may be given in small does, but this is so inclined to cause nausea, vomiting and constipation that I use it rather sparing ly. Commisserating friends and sorrowing relatives should be excluded in order to diminish psychic and emotional disturbances. Repeated and tactful reassurance of the patient promotes confidence, especially, if it can be provided by a former patient who has had a satisfactory local anaesthesia for the same or a similar operation. The surgeon can truthfully tell the patient that for many operations a general anaesthetic is practically the only element of risk and in electing local anaesthesia he had chosen safety.

In the operating room quiet should be maintained. The clatter of pans and noise of instruments are disturbing to many patients and should not be permitted. Attendants must refrain from discussing the steps of operation, from commenting on or criticising patients' anatomy or conduct or pathology, nor should debates between spectators, even though they are visiting physicians, be allowed as to the relative safety or comfort of general and local anaesthesia. Comfort on the operating table should be provided; soft pads, and sufficient drapes, particularly in perineal and rectal operations, to show due regard for the comfort and modesty of patients.

As regards *Methods of Administration,* there are a few fundamental principles which must be observed. Perhaps, first is to avoid multiple punctures in unanaesthetized skin. By using a fairly long needle and slow subdermal infiltration from a primary wheal, extensive areas and lines of skin may be painlessly anaesthetized and blocked off. Inflamed and infected areas, such as abscesses, boils, and carbuncles, should be slowly injected or circum-injected from healthy skin. The skin of the palms of the hands and soles of the feet should be injected from the side or dorsum of the extremity. When making deep infiltrations in the vicinity of large vessels or into the peritoneum the needle should be advanced slowly, making con-

tinuous injection, or the aspiration test may be made occasionally. With a small needle there is thus little danger of damaging blood vessels or intestines. With repeated practice one may learn by the "feel" of the needle to differentiate the layers as the needle penetrates them.

It is not my desire to make a mere "catalogue of ships"—to give simply a citation of operations in which local anaesthesia is possible, but a further word seems necessary to illustrate the wide range of applicability in the various parts of the body. I would maintain at the outset that all minor operations, — those in which the risks of the anaesthetic are out of proportion to the importance, extent, or severity of the operation, should be done under local anaesthesia. Thus, boils and carbuncles, the removal of foreign bodies and new growths, amputation of fingers and toes, even of hand and foot, hallux valgus, various dislocations, many fractures, both closed and open, even of the head, the mastoid operation, are easily done under local anaesthesia. Septal, turbinate and sinus operations, tonsillectomy and tracheotomy even in children, laryngotomy and laryngectomy, cancer of the lip with block dissection of the neck, all are perfectly feasible under local anaesthesia.

Many surgeons are now doing most of their goitre operations under local anaesthesia, in part because of the greater safety, in part because many patients prefer this method. It is of special importance in preliminary ligations that our anaesthesia should be perfect in order to win the patients' confidence for further ligation or later removal of the gland. Operations on chest wall and thorax lend themselves well to local anaesthesia (which is fortunate), for many patients requiring such operations are poor risks, and the very real danger of lung complications following general anaesthesia are thus avoided. Thus in empyema, acute and chronic—and at all ages, and in lung abscess, and even for multiple rib resection, local anaesthesia should usually be the method of choice. Benign tumors of the breast—even mammary cancer with axillary dissection can be successfully done under local anaesthesia (paravertebral and brachial plexus block). But in breast cancer the usual fair condition of the patient makes the rather complicated method a burden and of doubtful urgency.

For many abdominal operations local anaesthesia should be the method of choice. Practically all hernias, of whatever origin, location or type, even with extensive omental, intestinal adhesions can be readily operated by this means. With care in the dissection, some supplemental injections, with good exposure and good light, adhesions may be separated, redundant and adherent omentum can be resected, and extensive plastics done without distress or discomfort or danger. I have several times done an extensive resection of panniculus in pendulous abdomen with the repair of umbilical or other hernia, removing by this means pounds of abdominal weight.

Congenital hypertrophic plyoric stenosis, typhoid perforation, appendiceal abscess, enterostomy in obstruction, gastrostomy, and gastroduodenostomy, these are all amenable to local anaesthesia properly administered. Many cases of gall bladder and gall duct disease can be operated under local anaesthesia. Exploratory abdominal section for suspected malignancy, while rarely necessary now because of refined methods and means of diagnosis, need scarcely ever be done under general anaesthesia, since anemia and cachexia are so often present, and likely to be aggravated by the general anaesthetics. The operation for ruptured tubal pregnancy, the drainage of pelvic abscess and pyosalpinx form a good and legitimate field for the employment of local anaesthesia. Drainage of the bladder, removal of bladder stone and prostatectomy can be readily done under combined regional and sacral anaesthesia. Likewise, in my experience, cesarean section has been so satisfactory by this method that one patient remarked it was "the easiest way to have a bady." Under combined sacral (caudal) and regional anaesthesia the various plastic operations on uterus, vagina, and perineum are easily possible. By this method the author has done dilatation, curettement, trachelorraphy, anterior colporraphy, perineorraphy, appendectomy with a modified Gilliam operation. The patients not only survived but were extremely grateful to have escaped the discomforts of a general anaesthetic. In cases of incomplete or septic abortion, where the patients are exsanguinated or toxic, curettment can with great advantage be performed under sacral anaesthesia. Likewise, all operations about the rectum, hemorrhoids, ulcer, fissure, ischio-rectal abscess, fistula, prolapsus, even extensive resection of the rectum, can be done comfortably and with greater safety by means of regional or sacral anaesthesia. It may be remarked that a very

potent reason for our patients patronizing advertising quacks and so-called "specialists" for the treatment of rectal diseases is the very great opposition to undergo general anaesthesia (for the cure of these diseases). "No detention from business"—"Without the use of the knife"—"Not necessary to take an anaesthetic"—"No hospital stay necessary" — these are catch words to induce repeated and prolonged and expensive office treatments at the hands of these pseudo-specialists. We need to learn that practically every form of rectal operation can be readily and comfortably performed under local or sacral anaesthesia, to inform the public of that fact and to perfect ourselves in the art of administering this great boon, not only in rectal but in the many other legitimate fields, as I have tried (though hastily and briefly), to outline.

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A PATIENT OR A CASE*

FRED S. CLINTON, M.D., F.A.C.S.
TULSA

A complex condition of society is developing. The splitting up of basic or fundamental service into specialties seems to invite a sort of detached mechanical method of doing things. The passing of the old family physician whose intimate knowledge of all the members of a family and their personalities, attachments, business and home atmosphere, etc., and the use of nurses, technician, and laboratories to collect, classify, interpret and determine the relative importance of presenting symptoms and even make the final analysis or diagnosis and suggested treatment without a co-ordinating mind to correlate everything connected with the condition is all too common. We may be absorbing and reflecting the mechanical age in which we live. The *case* is becoming isolated and detached from the *patient*. After many years of experience and observation I wish to make but one point in this brief discussion of the subject—"A Patient or a Case." Pope has said "the proper study of mankind is man." Sir William Osler has often quoted "Old Doctor Pary, of Bath," "It is much more important to know what sort of patient has a disease that what sort of disease the patient has."

The mechanical contrivances, instruments of precision, reagents, etc., are all unthinking and unreasoning creatures, which should be servants and not masters. They should be aids under control and not be permitted to dominate from their detached position.

This day of education and growing intelligence makes quite important the careful consideration of the chief complaint of the patient who seeks relief and compels attention to the recognition of the entire individual and all of his relations to life.

While we call to our aid anatomy, physiology, psychology, living pathology and immunity, we must emphasize the study of *man* and *his relation* to *life* and *environment*. His entire personality must be considered to render the greatest medical service. Coleridge says: "Personality is individuality existing in itself, but with a nature as a ground." We must study and evaluate the patient as an individual human being and skillfully gain his full confidence to secure an early and timely diagnosis in many diseases. The mind—man must be studied with the same care devoted to the external forces or disease agents such as trauma, bacteria, etc.

Dr. William Joseph Jones, of Crazet, Va., relates this incident to illustrate the physicians' sympathy as psychologic remedy of great value in the treatment of disease when properly applied with a sympathetic understanding:

"About forty years ago, I had a hurried morning call to visit a baby six or eight months old, said to be dangerously ill. It was the first child of one who had arrived at the mile post a few years after young maidenhood, when she married a widower of age and experience. On my arrival she met me at the door with the baby in her arms. Her first words were, 'Doctor, I fear that you cannot properly examine my baby.' It was screaming and writhing as if in great pain. I said, I think I can. You sit down and calm yourself. She said that the baby would not leave her a minute and that it had suffered since midnight. I talked quietly and sympathetically to the mother. The baby watched me and listened. In ten minutes it had ceased screaming and writhing and, after permitting it to inspect me until I thought it was satisfied, I held out my hands. It came to me and nestled in my arms, the arms of a loving father. It was soon asleep and I delivered it to its mother. I held out my

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hand to say good-bye. The other words were, your baby is not sick and therefore does not require medicine. It is now well. Do not forget what you have learned."

Kipling says in his splendid poem, "Our Fathers of Old":

If it be certain, as Galen says—
And sage Hippocrates holds as much—
"That those afflicted by doubts and dismays
Are mightily helped by a dead man's touch".
Then, be good to us, stars above!
Then, be good to us, herbs below!
We are afflicted by what we can prove—
We are distracted by what we know.
So—ah, so.
Down from your heaven or up from your mould,
Send us the hearts of our fathers of old!

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THE ACUTE SURGICAL ABDOMEN*

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MANGUM

Gentlemen: I wish to thank you for the honor accorded me in inviting me to appear on your program. I assure you it is not only a pleasure, but a privilege. I recall that on two other occassions I have been so invited but due to circumstances over which I had no control, I could not avail myself of this privilege. Dr. Moss called me and invited me to come over. I set to work immediately to so arrange my work that, barring providential hindrance I would be present here today.

For my subject, I have tried to choose a condition or conditions rather, free discussion of which I believe will benefit the greatest number present.

In discussing the "Acute Surgical Abdomen" it is not my intention to enumerate or discuss every acute abdominal condition that might arise, but to confine myself to the more common and freqquent conditions with which we, as physicians and surgeons come in almost daily contact. In this section of the country especially, the most frequent acute surgical abdomen is due to acute appendicitis. Notwithstanding the fact that its symptoms in a typical case have become so well known that the family often make the diagnosis before the arrival of the physician, the death rate each year is still appalling, when if we did our full duty, barring the exceptional case where the family is so unreasonable as to absolutely refuse operation, our death rate should be nil.

I will admit that in some cases of the fulminating type it is rather difficult to make a differential diagnosis, but knowing the harmlessness of a clean appendiceal operation, we should always insist upon an immediate operation rather than wait for the case to differentiate itself. Quoting from my previous treatises on this subject, "It is far better to operate immediately and remove a normal or slightly affected appendix, than to wait and have a developed case of localized or general peritonitis with which to contend." Of course, this latter statement presumes the finding and correction, if surgical, of the real trouble at the time of operation in case the appendix is found not to be the cause of the abdominal distress.

Probably the next most frequent condition that calls for immediate operative interference, is empyema of the gall bladder, Fortunately the infected and disturbed gall bladder is not so liable to rupture as the equally affected appendix, but the potential danger is just as great, as every surgeon can testify, and an immediate operation should be insisted on in order to prevent the rupture with its often dire consequences.

Next in order comes the acute perforated ulcers of the stomach and duodenum, which calls for the quickest and most thorough operation possible if your patient's life is to be saved.

There is no other surgical condition wherein the time element bears such a direct ratio to recovery than in perforation of the acute ulcer. Another frequent condition that is almost on parity with acute perforation is complete intestinal obstruction, from any cause. Of course, we are all familiar with the obstructions that are due to inflammatory processes such as acute appendicitis, but I am now primarily speaking of the acute obstructive conditions *per se* that occur. Under this group may be mentioned the various ilei that occur from torsion, bands, constriction of hernial rings, true intussusception, etc. Always bearing in mind to expect the latter condition in children and the former in adults and post operative cases of any age.

In the female, in addition to the above mentioned conditions we have a variety of accidents that occur which we should always be alert to diagnose and institute

*Read before the Four County (Texas) Medical Society at Wellington, Texas. March, 1928.

immediately the proper surgical treatment. In single women it is not at all unusual to find severe intra-abdominal hemorrhage from a ruptured haemorrhagic cyst. When this condition occurs with profuse haemorrhage the condition of the patient can become alarming in a very short time. The diagnosis in these cases as a rule is not so very easily made until the haemorrhage has become copious and the pulse shows unmistakable effect of the blood loss. I really believe that this condition happens in young girls of the menstrual age far more often than is generally believed.

In the married woman with a history of abnormal or atypical menses, acute pain in lower abdomen, etc., we should always be very thorough in our examination and be sure to eliminate a possible tubal or other form of ectopic pregnancy before giving a sedative and leaving the patient. This mistake is all too common and many an avoidable death has been permitted to take place, due to our laxity in making a thorough examination when the symptoms were still mild and obscure.

Now as stated in my opening remarks I have purposedly alluded only to the more common conditions which we can reasonably expect to meet any day. Of course, we should bear in mind the more infrequent abdominal lesions, such as mesenteric thrombosis, infarction of the bowel wall followed by necroses, the various types of intra-abdominal hernia, torsion of tumors, foating kidneys, wandering spleen, etc.

I have also refrained from going into the symptomatology of the various acute conditions which require immediate surgical treatment. This was done with the idea that a free discussion of symptoms by the members in open forum following this presentation would redound to the greatest good and would also allow the speaker to be benefited by receiving diagnostic aids from your own valuable experiences in this field.

In closing this short address, may I express the hope that you will each enter whole heartedly into discussion of the various aspects and phases of the subject. If you do this, I will be amply repaid for my efforts to stimulate your interest in carefulness and thoroughness in examinations, proper diagnosis and a stronger determination to see that the proper treatment be instituted as early as possible.

ARTIFICIAL PNEUMOTHORAX

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The earliest record we have of artificial pneumothorax in the United States was that administered in 1894 by Dr. John B. Murphy of Chicago. About 1912 this treatment became more than an experiment, and today it is being used quite generally, especially in sanatoria, for the treatment of pulmonary tuberculosis.

The indications for an artificial pneumothorax are, first, persistent hemorrhage that does not yield to the ordinary methods used in stopping hemorrhages; second, unilateral infection of tuberculosis of the lungs that under the routine rest treatment has a tendency to remain stationary or progressive; third, as a last resort in bilateral cases to relieve annoying symptoms such as cough, expectoration, high fever, and night sweats when there is very doubtful prognosis of its being useful as a curative agent.

Success of an artificial pneumothorax will depend primarily upon the skill of the doctor in selecting cases that are suitable for the treatment, the patient's ability to cooperate thoroughly with the doctor in carrying out the rest program, and the constant checking of the patient's condition by physical examination, clinical history, and the fluoroscope and X-ray.

Nearly every operator has a different technique for administering artificial pneumothorax, but the usual technique is as follows: Place the patient on table with the side uppermost which you desire to collapse. I like to place a pillow under the side of the chest that is down. This practice seems to bring the ribs further apart and enables the operator to get the needle into the pleura with greater ease. Locate a place between the 5th and 6th ribs in the mid-axiliary line. This is then anaesthetized with 2 per cent procain, novocaine, apothesine, or some non-toxic local anaesthetic. I prefer apothesine, 2 per cent, a small amount of this drug being injected into the skin, producing a small wheal. A small caliber hypodermic needle about three-fourths of an inch long is then introduced into this wheal down between the ribs into the pleura, injecting solution as it goes. After allowing a few minutes to

elapse, a blunt 18-gauge needle is introduced, care being exercised not to puncture the inner pleura.

As mentioned before, technique varies in making the initial puncture, some operators preferring to make a small incision in the skin with a lancet, and extending the lancet on down between the ribs near the pleura.

The point for making the puncture into the pleura can not always be in a certain stated place because oftimes pleural adhesions prevent separating the two layers of the pleural sac, and some other site may allow the introduction of air. The site where the pleura seems to be most free, and where the needle does not have to pass through a great amount of muscle tissue, is ideal.

The skill used in performing this slight operation is of paramount importance on the initial puncture. After a successful puncture, the refills do not, as a rule, require so much careful attention.

There are various types of machines used in administering artificial pneumothorax, but most of them depend upon water flowing from one bottle into another to produce pressure to force the air into the pleural cavity. These two bottles should be graduated to determine accurately the amount of air that has been forced into the pleural space.

A very important part of the artificial pneumothorax apparatus is a correctly graduated manometer. It is necessary that this be accurate in order to know definitely the amount of positive or negative pressure in the pleural space. The manometer is a U-shaped glass tube with both legs of the U about ten inches long, and should be filled with water to a point one-half way up the U.

When the needle is in the pleural space oscillations will be noted on the manometer unless the caliber of the needle has become stopped with tissue or blood. If the needle enters the lung tissue the oscillations on the manometer do not have a wide variation from zero, and the introduction of air does not produce any change in the readings.

Most normal pleural spaces when first punctured will show between -1 or -2 on expiration, to -5 on inspiration. The object is to destroy gradually this negative pressure and produce a slightly positive pressure, somewhere around +1 or +2 being desirable.

In former years nitrogen gas was used to produce collapse, but for various reasons atmospheric air is now the agent used for this purpose. The most dangerous complication liable to arise from the administering of artificial pneumothorax is air-embolus and this is usually fatal. Occasionally there may be a shock following the puncture of the pleura which has varying degrees of severity, however, this condition rarely occurs when the anesthetic agent is properly injected.

The amount of compression to be used will depend upon circumstances. For instance, in giving artificial pneumothorax to control hemorrhage, the initial treatment requires a greater compression than is usually given when an ordinary pneumothorax is desired.

In giving an artificial pneumothorax in a unilateral tuberculosis of the lung it is advisable not to try to obtain any great amount of pneumothorax on the initial puncture, but to give small quantities of air every three or four days until the patient has become accustomed to the pressure, and the pleura can be punctured and the air forced in without any appreciable amount of pain. Ordinarily the initial puncture for patients of this type will not require over 150 to 200 cubic centimeters of air. This is repeated at intervals of three or four days until the manometer readings show that air is being retained, and that a positive pressure is being maintained. Then the treatment can be given at longer intervals from time to time. In treatment of this unilateral type of case it is not always advisable to try to get a complete collapse, the amount of collapse desired being dependent upon the patient's general condition and one's reaction to the treatment.

On account of these facts it is almost mandatory that a patient beginning an artificial pneumothorax should be in an institution where complete records are kept of each patient's progress, and where constant supervision of rest under competent personnel can be obtained. After a pneumothorax has been well established the constant care and checking of clinical and physical symptoms are not so necessary, and the patient can become an outpatient.

The length of time a lung should be kept in a collapsed state is a question the operator must decide. Some cases have been

known to take artificial pneumothorax at intervals varying from one to three or four months for a period of years. The general condition of the patient will be a guide in determining when to lessen the pressure, but ordinarily a collapse should be maintained long enough for sufficient fibrous tissue to form to hold the former diseased areas, and not allow expansion of that part of the lung. Some patients apparently form this fibrous tissue more quickly than others. If when gradually lessening the pressure on a lung a physical examination reveals rales, and clinical symptoms show increased activity of tuberculosis, the proper procedure would be to increase the pressure again.

Many times artificial pneumothorax is beneficial in treating a spontaneous pneumothorax of one or more lobes. It is also used in replacing fluid which has been withdrawn from the pleural cavity, to prevent shock from too rapid a relief from pressure.

Not all attempted pneumothoraces are successful. Sometimes adhesions are present between the two layers of the pleura which can not be separated, causing severe pain when pressure is introduced into the pleural space. When this condition is encountered and an attempt is made to force air into the pleural sac regardless of the adhesions, the air is apt to escape into the tissues and produce emphysema. This is very painful and annoying to the patient, but a doctor skilled in giving pneumothorax will rarely have this occur.

Sometimes after a pneumothorax is apparently well established fluid will form, and unless this fluid reaches a quantity that produces a great deal of annoyance, high fever, and night sweats, it is sometimes not best to interfere with it. If it becomes necessary the patient can be aspirated.

There is always a danger of this fluid containing tubercle bacilli and later forming an empyema, with the formation of adhesions and the plastering of the pleural surfaces to the point where artificial pneumothorax can no longer be given. This condition is usually caused by poor technique in administering artificial pneumothorax and should not occur very often.

Artificial pneumothorax sometimes produces wonderful results where it is desired to collapse a cavity when the walls of the cavity are in a condition that allows them to yield to pressure, and when they have not reached a hardening stage. Treatment in a case of this type will reduce the amount of sputum and allay the cough.

Many times an artificial pneumothorax can be given where one lung is producing much of the toxemia without much untoward effect in the opposite lung, even though it is also diseased.

Some of the contra-indications for the use of artificial pneumothorax are first, moribund cases; second, cases that show an equal amount of involvement on both sides; third, cases that show a history of severe pleurisy on the side selected for the artificial pneumothorax; fourth, lungs that are of fibroid character that will not yield to the inter-pleural pressure.

If, during the course of treatment, a severe pleurisy develops, or if the refills become painful to any great extent, it is advisable to stop the treatment.

FIGURE 1
(Coal Miner)

Male, age 41, occupation coal miner. History on first examination, always been well until 1925 when diagnosed as having tuberculosis. Had some small hemorrhages, went to sanatorium for three months, after which he went back to work feeling good. Reentered sanatorium January 21, 1929, because of spitting blood every day for six weeks, weight 158, temperature ranging from 98 in the morning to 99.2 to 99.4 in the afternoon. Sputum

positive G2. Right lung showed increased whispered voice in apex, course rales after cough over entire lung, more marked around second and fourth ribs; left lung showed diminished breath sounds, no rales. Patient appeared to be almost exsanguinated.

Artificial pneumothorax was started January 24, 1929, on right side, 300 cc. of air being given on initial puncture, and treatments being given twice a week, 400 cc. of air being given each time. Blood one time showing in the sputum was old and dark in color, since pneumothorax started.

Radiograph shows sixty per cent collapse of the right lung March 6, 1929. Left lung shows numerous calcified areas but no evidence of activity. Weight of patient April 14, 1929, was 166 pounds, temperature from 98.6 to 99. Patient able to exercise without increasing temperature, and no evidence of blood in sputum.

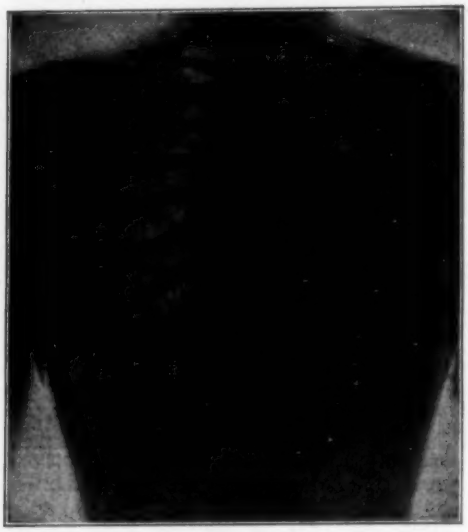

FIGURE 2-A
Condition on Admission

Female, married, age 20, occupation housewife. Gave history of a cold in 1927, which caused her to go to bed for three weeks, never fully recovering; pleurisy on right side for three weeks; normal weight 120 to 127 pounds; weight on admission July 17, 1928, was 105; temperature 104 with remissions to 100 for a few days and then back to 104; sputum positive G3, on July 27, 1928; positive again in August and in September. Physical examination showed increased whispered voice apex, posterior, with few coarse rales; many coarse rales after cough in the base posterior; left lung showed harsh breath sounds from the base up, numerous rales after cough.

Radiograph shows extensive mottling and haziness throughout left lung with suggestion of cavity formation opposite second rib; right lung shows areas of infiltration throughout the lung; increased density of the hilus with areas of inflammatory process near the second rib. Diagnosis was bilateral tuberculosis, advanced, more active in left side.

Temperature improved on complete rest, with sudden rise to 102 on October 25. Initial puncture made in left side November 10, 1928, 200 cc. of air given. Fever immediately subsided to below normal averaging 98.2 to 98.4 and has not gone above normal since except a few days before menstrual period. Average amount of sputum on admission was two ounces daily. Since initial puncture sputum has been absent, and smear shows negative for the tubercle baccilli. Weight March 7, 131 pounds.

Figure 2-B shows lung condition five months after starting pneumothorax; al-

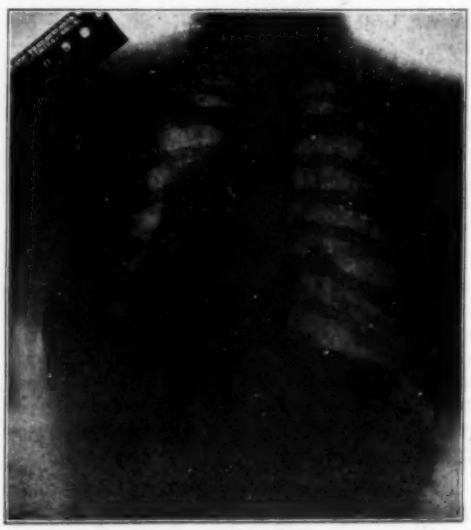

FIGURE 2-B
Picture Was Reversed and Shows Left Lung on Left Side of Picture.

most a complete collapse, evidence of pleural adhesions around the second rib and fifth rib. Inflammatory process in the right lung opposite the second rib appears to be completely cleared up. Patient exercising extensively, dresses and walks two blocks to three meals a day.

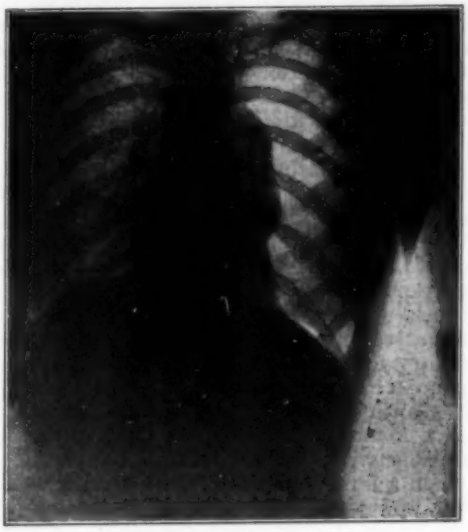

FIGURE 3-A
Two Years After Initial Puncture

Female, age 24, occupation commercial teacher. History of glandular tuberculosis at six years of age, break down pulmonary tuberculosis at 18 years of age and again at 21. Entered sanatorium September 25, 1925, age 22; physical examination showed many coarse rales in upper lobe of left lung and few coarse rales in upper lobe of right lung; calcified areas scattered over both lungs; right lung healed under routine rest treatment but left lung remained progressive. Artificial pneumothorax was started March 1, 1927, 200 cc. of air being given on initial puncture.

Figure 3-A shows X-ray made February 8, 1928, almost two years after initial puncture, left lung practically completely collapsed, patient working as stenographer every day, 400 cc. of air being given every four weeks.

Figure 3-B shows the same lung, radiograph taken March 7, 1929, after the length of time between treatments had been extended to six weeks, smaller amounts of air being given each treatment with the

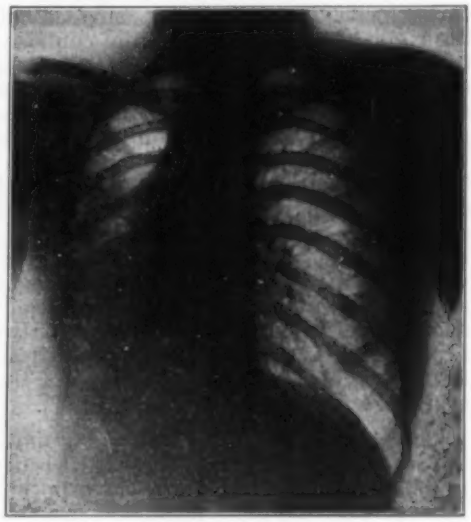

FIGURE 3-B
Lung Expanding
Picture Was Reversed and Shows Left Lung on Left Side of Picture.

idea of allowing the lung to expand. Patient still working every day, lung almost completely expanded, especially from the third rib down. No signs of rales in either lung. All physical signs absent for over two years. Diagnosed as arrested case.

Figure 3-B shows the elapse of considerable time to prove the beneficial results that may be obtained by artificial pneumothorax where a patient does not respond readily to the ordinary routine treatment at the sanitorium.

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GALL BLADDER FUNCTION AND ITS CLINICAL DETERMINATION.*

W. P. NEILSON, M.D., D.N.B.
ENID

Since the birth of anatomical and physiological investigation, gall bladder function has remained mysterious. Medical literature has been filled, since its establishment, with theoretical and practical considerations, regarding the role which the gall bladder might play in the process of metabolism as a whole. It is therefore necessary to first consider in this paper some of the physiological and anatomical aspects of the gall bladder, in order that

*Read before the Garfield County Medical Society, Enid, Okla., Feb 27, 1929.

we may obtain a working hypothesis for further consideration.

The gall bladder is a pear shaped structure which lies on the under surface of the right lobe of the liver. Quite contrary to the dominating opinion, the position, size and shape of this structure are not constant. They are governed to some degree by the size and position of the individual and the relationship of its neighboring structures. Since the debut of cholecystography, it has been the frequent observation of many clinicians that a normal gall bladder shadow can be obtained when the structure occupies any one of many different positions. The gall bladder receives its nerve supply from the hepatic plexus, and its blood supply from the right hepatic artery by way of the cystic artery.

The right and left hepactic ducts unite to form the hepatic duct. The hepatic duct is joined by the cystic duct, which is continuous with the gall bladder; thus the common bile duct is formed. The common bile duct enters into the duodenum. It is necessary to understand that the common bile duct does not penetrate the duodenal wall directly, but enters and continues in an oblique manner. The distance traversed before actual penetration of the mucosa is 1-1.5 cm. Oddi, some years ago described a delicate muscular sphincter which attempts to surround the distal end of the common bile duct. This has since caused considerable discussion and comment regarding the responsibility which this structure might play in the process of gall bladder evacuation.

A cross section of the gall bladder wall shows it to be made up of five distinct histological layers. From outwards in; the serosa, subserosa, fibrous tissue layer, muscularis and mucosa.

Bile is secreted by the liver cells, transmitted through the right and left hepatic ducts into the hepatic duct, hence into the common bile duct. It then travels to the distal end of the common bile duct, which remains closed during fast. By a process of back pressure, it is forced through the cystic duct and stored in the gall bladder. If active digestion is going on at the time at least a portion of the bile empties into the duodenum without admittance to the gall bladder. Bile obtained from the gall bladder directly has been found to contain less water and more solids than bile obtained directly from the common bile duct. From this fact we deduct one of the known functions of the gall bladder, it concentrates bile. Another proven function is, it stores bile. Surgeons, while doing a b d o m i n a l operations always find the gall bladder partly filled, consequently, we are assured that some bile is virtually always stored in the gall bladder. The remaining function of the gall bladder which is widely conceded is, it expells its contents. Just how this is done is at present quite speculative. The first consideration was that the smooth muscle in the wall of the gall bladder contracts, during digestion, thus expelling its contents. The small amount of muscle in its wall and failure of this muscle to readily respond to external stimuli, caused this theory to fall into disrepute for a long time. The explanation substituted was a combination of factors. First during digestion, when peristaltic waves began the sphincter of Oddi relaxed and bile was admitted into the intestine. Secondly, the theory has been advanced, that there is a process of synergism completed which has an affinity for bile, acting somewhat as a hormone. This idea is based upon the demonstration of an increased bile flow when a large amount of fats are ingested. We know that bile salts are essential for the emulsification and digestion of fats. Thirdly, perhaps the gall bladder empties periodically in the response to changes in intra-abdominal pressure. Fourth, why could we not assume that gravity plays an important part by virtue of the position of the gall bladder in relation to its ducts and the intestine.

B a i n b r i d g e and Dale[1] in 1905 and and Match in 1917 [2] have demonstrated rythmical contractions of the gall bladder and have shown that the contractions were not due to respiratory movements, as other men had assumed them to be. Macht has also shown that the tonus and rate of contractions of excised gall bladder of the cat and dog are increased when morphine is added to the bath or injected into the intact animal and the reverse is true when papaverine is administered. Lieb and McWhorter [3] in 1915 demonstrated the gall bladder to contract when exposed to pilocarpine, physostigmine, and morphine, but to relax when exposed to atropine, adrenalin or bile salts. Ivy has recently done work to demonstrate the possibility of a hormone similar to secretin, which is liberated by the intestinal mucosa, and carried to the gall bladder by the blood stream, where it causes an in-

crease in both tonus and the rate of contractions of the gall bladder wall.

Until the valuable contribution of Graham, Cole, Copher and Moore, [4] Diagnosis of gall bladder pathology in many cases was largely a matter of speculation. With the use of this most valuable laboratory procedure, we are now able to diagnose gall bladder dysfunction more thoroughly and much earlier in the disease cycle. Consequently gall bladder diseases can be treated much earlier; which reminds us of the oft-quoted maxim of Borelli "He who diagnoses well cures well."

Cholecsytography was the name applied by Graham and his co-workers[4] to this laboratory procedure. It has since been adopted in virtually all of the first class hospitals of the world and is generally hailed as the one best laboratory diagnostic procedure. As its name implies it is the introduction of a method which makes possible a study of the gall bladder and its bile ducts, in detail under the X-ray

First of all it is necessary to understand that this method offers a test of the functional capabilities of the gall bladder and not a direct determination of gall bladder pathology except by a process of deduction relative to the variation from the normal. The originators found, after much experimentation, that certain dyes are secreted by the liver cells, carried with the bile to the gall bladder where they are stored and concentrated. The original work was done with the sodium salt of tetraiodophenolphthalein. It was necessary, however, for them to discard this substance because of its toxicity. Many other dyes were tried with more or less sucess. They finally concluded for intravenous administration, phenoltetrachlorphthalein was the best. It cast a good shadow, caused fewer and milder reactions and required a smaller dosage for results.

When phenoltetrachlorphthalien is placed in the body, either intravenously or orally, it is absorbed by the blood stream, taken to the liver and secreted by the liver cells. Having been secreted by the liver, it is stored in the gall bladder. The dye is secreted by the liver just as the bile is secreted, it enters the gall bladder in a dilute form. As we have shown above, the gall bladder has the facility of concentrating the bile, by the absorption through its walls of water; similarly it is able to concentrate the dye. Then when it is exposed to the X-ray a gall bladder shadow is cast.

Given a gall bladder which is physiologically perfect, the dye reaches the gall bladder, is stored and concentrated there. An X-ray examination will therefore show the outline of the gall bladder upon a film. The absence of a shadow, on the contrary indicates that the gall bladder as a whole is not able to store and concentrate the dye, hence no shadow is revealed.

The question arises, before the dye is stored in the gall bladder, it must first be secreted by the liver. Perhaps if the liver is so diseased it would not be able to secrete the dye, then no gall bladder shadow would be shown, when the gall bladitself is quite normal, as a consequence one would interpret the condition as a pathological gall bladder. Graham[4] and his colleagues have shown that as much as half of the liver of a dog can be destroyed and yet a normal physiological gall bladder test result. Diseases which destroy over half of the liver function are extremely rare and are accompanied by symptoms and physical findings which would at once make a diagnosis of liver disease evident. It is therefore readily seen that the percentage of error so explained would be extremely small. Some work has recently been done in this regard with relation to liver function, but this is beyond the scope of this paper. Many reactions do occur following the injection of this dye but it has been shown that the standard dosage does not cause excessive liver necrosis.

Before attempting the use of this method one should be thoroughly familiar with the procedure. It has been advised as follows[4]: .04 gms. of the dye are injected, per kilogram body weight. It should be diluted with freshly distilled water to a solution which does not exceed 8 per cent. Care must be taken against injecting the dye outside the vein, as it is very toxic to the soft tissues. Once the dye has been injected, 50-100 c.c. of normal saline should immediately follow in order to wash the dye well out of the sight of injection. This prevents local thrombosis. When given intravenously the digestive mechanism of the patient should be prohibited as much as possible, because we know that the common bile duct is at least partially patent at its distal end during digestion, especially during the digestion of fats. The patient should therefore, have nothing to eat for 8-10 hours preceeding the injection of the dye. X-ray films are then made at intervals of 4,8, and 24 hours. The oral method requires longer

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for absorption and secretion. It is given in capsules, approximately the same dosage, is usually given the evening before along with the evening meal. Plates are then made at 12, 16 and 20 hours.

The absence of a shadow is taken as an indication of improper gall bladder function. When a shadow is made and shows a definite outline of the gall bladder, it is taken as an indication of good gall bladder activity. The variation between is of course relative, and the degree of improper function must be interperted on a basis of comparison of known normals as a control.

The intravenous administration has been adopted by most clinics as the superior of the two. Many individuals report excellent success with the oral method. When oral administration is used, there are no sore arms, no reactions and relatively little danger.

Most clinics headed by competent men report an accuracy of the test in 90-95 per cent of all cases, as substantiated by operative findings. Graham[4] has repeatedly stressed the importance of careful administration and careful and intelligent interpretation.

REFERENCES:

1. Bainbridge F. A., and Dale, H. H. The Contractile Mechanism of the Gall Bladder and its Extrinsic Nervous Control; Journal of Physiology, 1905, 33:138.

2. Macht, D. I. On the Comparative of the Opium Alkaloids Individaually and in Combination With Each Other on Gall Bladder. Jour. Pharmachology and Experimental Therap., 1917, 9:473.

3. Lieb, C. C., and McWhorter, J. E. Action of Drugs on the Isolated Gall Bladder. Jour. of Pharmachology and Experimental Therap., 1915, 7:83.

4. Graham, E. A., Cole, W. H., Copher, G. H., and Moore, Sherwood. Diseases of the Gall Bladder and Bile Ducts. Lea and Febiger, Philadelphia, 1928.

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HEMATURIA

O. R. GREGG, M.D.
ENID

The excuse for this paper, on a mere symptom, is its familiarity. It is the common everyday things of life that are least appreciated. I know of no symptom that you meet as frequently as the red cell in the urine. Each of you, had you realized its importance, could have furnished records reaching into three or four figures. Its very commoness has caused it to be passed over with neglect. How many here tonight so much as take a second thought when the laboratory report shows postive for red cells. Each of you sit up and take notice of a little sugar or a few casts, while ignoring the presence of the simple erythrocyte. Insurance companies will taboo an applicant with an albuminuria, spend weeks investigating the cancer or T. B. history of a great aunt, and blindly pass by the red thread symptom that malignancy. True it is the master minds, realizing the importance of this cardinal symptom, have written volumes, but you won't read them.

NORMAL URINE DOES NOT CONTAIN RED BLOOD CELLS. THEREFORE ALL HEMATURIAS ARE PATHOLOGICAL. Hematuria is most common in adult life, yet it is frequently found in the nursing infant. It is more common in males than in females, in a ratio about two to one.

In order to avoid confusion I shall make a classification according to the s ource, i. e., when red cells are found in the urine, they may have come from the right or left kidney, from the right or left ureter, from the bladder, or from the urethra.

Kidney. One of the most frequent causes of hematuria arising from the kidney, is tuberculosis. In a series of 331 cases of blood of renal origin. Kretchmer[1] found that 80 were due to T. B., or almost 10%. If we are to obtain results in kidney tuberculosis, it is of the greatest importance that an early diagnosis be made. With the writer the keynote symptom is the *frequent painful urination particularly at night, with a very acid urine.* I cannot over emphasize this symptom, for it is the one symptom that brings the patient to your office. He or she arises from six to fifteen times at night to urinate; only passes a small quantity and as the last few drops are expressed there is a terrible, pinching, cutting pain. If the patient is a female and you secure a specimen by catheterization, she complains of intense pain as the instrument enters the bladder. Frequently the pain is so great that she will unconsciously throw herself half away from the table in attempt to get away. The urine is always acid, unless previously rendered alkaline, by drugs or certain mixed infection.

My second point of diagnosis is blood and pus in the urine. When you find these associated with the painful nocturia and acid urine most certainly you should make a search for T. B. Usually not a lot of blood cells are present; just a very few from time to time mixed with pus. They may be present in forenoon and absent in afternoon; or present one day and absent

the next, but if you will look often enough they will be found sooner or later. Fulkerson' says he finds blood in twenty per cent of his routine specimens from renal T. B.'s. And he always finds it in each patient's specimen sooner or later.

Diagnostic point number three, is finding the T. B. bacillis with the microscope. Of course if you find them, well and good. Your diagnosis is made. However, not to find them certainly does not mean a negative diagnosis. The usual routine is to centrifuge, centrifuge, centrifuge, and centrifuge, then take the sediment and look and look and look and look. Personally I want to confess that I have never been able to find the little red threads unaided. I simply haven't the knack or the persistence. However the technician in my office is able to find them in between sixty (60) to seventy (70) percent of our renal T. B.'s.

My fourth important diagnostic point is a urological examination, whether you have been able to find the bacillus or not. If you have not been able to find them, such an examination may be able to clear up and establish a diagnosis. If you have found them it is quite necessary that you determine which kidney is the guilty organ. This can be done only by ureteral catheterization.

The patient is placed on the urological table and the cystoscope inserted. I stated in a previous paragraph that the patient would move when you inserted the catheter. This action is doubled and quadrupled when you insert a 24 F cystoscope. At this time let me state that if the patient has urinary T.B. a satisfactory examination can not be made without an anesthetic of some kind. After you have inserted the instrument you may be surprised how little pathology you view, compared with the amount of pain the patient experiences. The amount of pain is entirely out of proportion to the amount of visible pathology. You will view the ureteral orifice, looking for ulcers or tubercles. You may find some, but probably not. You now pass the catheter (X-ray preferred), up ureter and instead of passing easily as in a normal ureter you get a distinct resistance, or drag, that to me, is quite diagnostic. One author says it feels like a rod being pushed up a lead pipe. After the catheters are in place, and specimens from either have been saved, the P S P function of each kidney is taken, and pyelograms made. I have been making double pyleograms and to date have had no bad results thinking it better than to subject the patient to a second cystoscopy. The pyleogram is quite diagnostic. The calices instead of being clear cut and concave assume a wooly, moth-eaten, indistinct appearance.

My fifth and last point of diagnosis is the guinea pig. At one time I was an absolute fundamentalist as far as the pig was concerned; it was law and gospel to me. I now use more than one pig, and occasionally take the liberty of doubting them. I believe occasionally we will get a good healthy pig that has enough resistance and throws out enough anti-bodies to overcome the bacterial sediment we have injected and thus give a negative diagnosis, when a postive was in order. I think I have had this happen several times. Braash told us at the 1928 meeting of O. M. A., that they were of the opinion that at times the pig was over-sensitive and gave a positive reaction, when it should have been a negative.

With the above diagnostic points it seems inexcusable to me to "sin away our days of grace" in making a diagnosis of renal T. B. Let me recapitulate.

1. Frequent painful urination, at night, with acid urine.
2. Hematuria and pyuria.
3. Microscopy.
4. Urological examination.
5. Guinea pig inoculation.

Stones, are probably the next most common cause of hematurias, of kidney origin. I feel quite sure that Oklahoma produces more calculae and less renal T. B. than most states. I am hoping to give more definite data in the future. With renal calculus, you may have a lot of pain or no pain. You may have a lot of blood, generally do at sometime in the history of the case, or you may have very little. How many are familiar with the following picture:

A man is a roustabout in the oil field; he is loading pipe, or pulling sucker rods and his foot slips (his foot always slips) and he passes red bloody urine. If compensation is carried, he is placed in a hospital with a diagnosis of a contused kidney. You tell him that under your wonderful care he will be all right in a few days, and that the insurance company will pay all the bills. If it's a farmer that has his foot slip, with no insurance, the bloody urine does

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not mean so much. He is given a prescription, told to go home, be careful, that he has a sprain and all will be well in a few days, and it generally is. Is that picture familiar? Formerly, the insurance company paid and paid, but that day is past. An x-ray is now taken, and isn't it surprising just how many of those torn kidneys turn out to be calculae. At this time the X-ray aided by pyleogram and opaque catheter to confirm the locality is the best diagnosis for stones.

The other cause for a profuse bloody urine is neoplasms. Here, men, is where hematuria means danger in brilliant red. It may be and probably is the only symptom that will lead you to an early suspicion and thus you will be able to save a life by early surgery. Blood; lots of it that occurs from time to time over long periods. When you find a lot of blood coming down from the k i d n e y, think of two things, stones and malignancies. Of course, you may get some tenderness, and you may be able to palpate a mass at times, but many more times you will base a diagnosis on your profuse hematuria aided by the pyleogram Let me quote you from some prominent urologists. Braash[1] in an analysis of 83 cases of hypernephroma found that hematuria had existed more than a year before other symptoms developed, in 64 cases. Hinman[2] in an analysis of published works of eight different surgeons, found that in 709 cases of renal growths, hematuria was the onset symptom in 297 cases. Hurry Fenwick[3] shows hematuria is the first symptom in 70 per cent of hypernephromata. Walther[4] in a study of 74 cases of hematuria, both accompanied and unaccompanied by other symptoms, demonstrated that over 52 per cent were malignant.

Pyelitis is a common cause of hematuria. There has been so much written about pyelitis by pediatricians, obstetricians, internists and urologists it is hardly worth while to mention it. Pus and blood cells with the constitutional symptom enable a diagnosis.

Nephritis, caused from disease and chemicals is frequently the cause of blood in urine. Such diseases as typhoid, scarlet fever, smallpox, and most all the tropical fevers cause a nephritic hematuria while bichloride, phosphorus and turpentine cause a chemical nephritic hematuria. Albumen, casts, and constitutional symptoms make the diagnosis not difficult, when taken into consideration with the history of the case.

Ureters. The two principal causes of *hematuria arising from the ureters* are stone and kinks or strictures, the symptoms of which you are all familiar. Diagnosis is made by ureterograms, and the use of the x-ray catheter.

Bladder. Kretchmer in his aforementioned 933 cases found carcinoma of the bladder to be the cause of 163, and papillomata, which most G. U. men concede malignant if left untreated, in 72. Chute[4], in his 100 cases of bloody urine, found bladder malignancies to be the cause of 25, and papillomita in 10. Other writers vary but little from the above statistics. Men! stop and consider. Out of every 100 times that the hospital laboratory or your office nurse reports red cells in the urine, 30 of them are malignancies of the bladder, or growth potentially malignant. There is no question but that papillomata, those cauliflower, see-weed-like growths, can be obliterated by early fulguration, yet if left alone soon penetrate the bladder walls and become cancers. Are you doing your duty when you blindly pass by these important growths? Is it any wonder that Bransford Lewis[5] made the statement that any practitioner that neglects to find cause and source of red blood cells in the urine, should have his license revoked and be forever barred from practice of medicine. Diagnosis can only be made by cystoscopic study.

Stones, Cystitis, and Tuberculosis are the cause of a very small percentage of hematuria from the bladder. Diagnosis is easily made by the cystoscope.

Prostate, hypertrophic adenomata, carcinomata, and tuberculosis are the chief cause of bloody urine, arising from the prostate. Usually little difficulty is encountered on making a diagnosis with the finger in the rectum, and a sound or a cysto-urethrascope in place.

All of us know the feeling of the large hypertrophied prostate. The hard, bony, stony prostate with nodules, particularly at the lower angle of the prostate in an old man means cancer, while nodules in this locality in the young man should be held suspicious of T. B. until absolutely proven otherwise. Stones, which are infrequent, are found in the upper part or body of the organ and can usually be

detected with the finger, metal instrument, and X-ray if necessary.

Hematurias arising from the urethra are in the vast majority of cases due to G. C. or its sequela, namely, strictures, ulcers, and various soft growths.

Very little is mentioned of blood from gummata, in this region, however, I observed them in three cases within a year, two of which I reported in detail in an article published in the November, 1928, Journal of the Oklahoma State Medical Association.

In conclusion, I realize that hematuria is a tremendous subject and that I have only "hit the high places." I am most sincere in believing that it is a keynote symptom being neglected by many practitioners. If this paper has done nothing more than to make some realize the importance of and show greater diligence in the early diagnosing of urinary tuberculosis, and malignant neoplasms, the author will consider his time well spent.

REFERENCES:

1. Surg. Gyn. Ob. Vol. page 683. Hematuria: a clinical study based on 933 consecutive cases. By Herman L. Kretschmer.

2. Gynecologic Urology, page 12; Tuberculosis of

3. Brit. Med. Jour., 1921, April 30, Extracts from the Urological Tract. By L. L. Fulkerson. studies by Walther, Hinman, Fenwick, Braash.

4. Jour. Am., Vol. 83, No. 17, Oct. 25, 1924, page 1321. Importance of Hematuria as a Symptom. By Author L. Chute.

5. In unpublished addressed before the Tulsa Academy of Medicine, December, 1927. By Bransford Lewis.

6. Okla. State Med. Jour., November, 1928. The Posterior Urethra. By O. R. Gregg.

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TULAREMIA*

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CLAREMORE

In view of the fact that tularemia has made its appearance in Oklahoma during the past few years, and being an infectious disease, may as time passes, become more prevalent, and owing to the fact that the first cases of record in Oklahoma were found in Rogers County, Oklahoma, I feel that it would not be out of place at this particular time to refresh our minds regarding the characteristics of this infection, and the various methods by which the individual may become accidentally inoculated.

*Read before the Rogers County Medical Society April 15th, 1929.

Tularemia may be defined as a specific plague-like infectious disease common to many rodents, and is occasionally transmitted to man. The bacterium tularense, which is the causative agent gives rise in certain rodents to pathognomonic lesions in the liver. The infection, insofar as has been reported, is confined to the United States. The occurrence of the disease in either rodents or man has been reported in California, Utah, Wyoming, Idaho, Colorado, Montana, New Mexico, Southern Indiana, Ohio, Tennessee, North Carolina, Virginia and West Virginia, and in Washington, D. C. Three cases of laboratory workers being infected have been reported in London. To Francis, who has given the name tularemia to the infection, we owe most of our present knowledge concerning it.

The specific organism is a very minute round or rod shaped organism, varying from three-tenths to seven-tenths microns in length and from two-tenths to three-tenths microns in width. At autopsy on animals that have died from the infection large numbers of this organism are found in microscopical preparations from the heart's blood, the liver, spleen and swollen lymphatic glands.

Tularemia may be transmitted experimentally by a number of insects as well as by handling carcases of animals that have died of the disease. The blood sucking fly, commonly found on horses, is capable of transmitting the infection from rabbit to rabbit in the laboratory, and this fly is also known to bite man. The human bed bug which also bites rodents is capable of transmitting tularemia from mouse to mouse. Francis and Lake found that bacterium tularense suffers no apparent diminution in virulence by reason of long residence in bed bugs. The virulence was manifested by acute death from tularemia within five to seven days in cases of a mouse bitten by bed bugs that were infected seventy-one days previously. When inoculated mice were dropped into a jar in contact with healthy mice, the infection killed off the healthy mice within 25 days. Wayson found that the stable fly transmitted the infection from guinea pig to guinea pig when the interval between biting the infected and the healthy animal was less than one hour. Obviously, the transmission was purely mechanical. Parker also discovered the organism in the wood ticks. In addition to this tick which bites both rabbits, wood

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chucks and man, the squirrel flea, the stable fly, the bed bug, and the deer fly bite both rodents and man. Obviously, however, infection in man may occur in another manner than by insect transmission as by handling of the infected rodents which have been shot, skinned or prepared for food. The infection of laboratory workers in Washington and in London also demonstrates that the infection may be acquired from handling infected rodents.

The incubation period in man has not been determined with certainty. However, Francis has given the period in eight cases as follows: in three, two days; in one, three days, and in two, five days; in one each, 8 and 9 days; the average being about 4½ days. He states that, considering the probable incubation period on other cases, he would regard the most common incubation period as from two to five days. The onset of the disease is described as being usually sudden, often occurring while the patient is at work, manifested by headaches, chills, bodily pains, vomiting, prostration and fever. In cases which are caused by fly bites or tick bites the patient complains generally within 48 hours after the onset of pain in the area of the lymph glands which drain the site of the infection. The symptoms ordinarily last from five to eight weeks and are followed by very slow, tedious convalescence. The most striking feature of the disease in man arises from the great prostration and disability which accompanies the illness, generally causing from two to three months' loss of time. Reporting some cases infected from the bite of insects Francis states that after the third day the site of the bite begins to present a black necrosed center which soon separates and sloughs out. The adjacent lymph glands in all of his cases required incision for the liberation of pus. In one of his cases which proved fatal, the average of the morning temperatures was 99.3F; the average afternoon temperatures were 100.4 F. The organism itself was not demonstrated in the human cases but its presence was determined by inoculations of the material from the cases into g u i n e a p i g s a n d rabbits. Of six laboratory workers reported by Lake and Francis, who contracted the disease while in the United States Public Health Service, employed in investigating tularemia, two were in field laboratories and were compelled to work under primitive conditions, while four contracted the infection in the hygienic laboratory at Washington, D. C. Two of the men were physicians; the others, laboratory assistants. In reaching the diagnosis of tularemia in the six infections contracted in the laboratory, the diagnosis rested upon the occurrence of a febrile period lasting about three weeks, positive serum reactions for agglutination, and complement fixation to antigen composed of bacterium tularense. The six laboratory cases, except in the second attack of the first case, furnished no local lesion indicating the portal of entry of the infection and no involvement of the superficial lymph glands.

Francis collected histories or notes of 49 cases of human infection with this disease—in some of these the diagnosis was not entirely definite. Of the 49 cases, 14 followed fly bites, 1 was caused by a tick bite, 10 had cut up jack rabbits, 10 had dressed wild cotton tail rabbits, and 14 were laboratory workers who had performed necropsies on infected guinea pigs or rabbits in laboratory. Of the 35 cases in which the patients had either been bitten by an insect or had cut up and dressed rabbits, 33 were of the glandular type with enlarged glands and evident local site of infection. In two of the 35 cases there was an absence of enlarged glands and of a local site of infection. The 14 cases of infection in laboratory workers were free from enlarged glands or local site of infection and clinically simulated typhoid fever. Francis points out that errors in diagnosis may arise in cases which simulate typhoid fever, septic infections, glanders and anthrax. In the case of a person who has dressed and prepared rabbits for the table and who developed inflamed glands of the crevical epitrochelar, or axillary regions accompanied by fever and marked illness, t u l a r e m i a should always be borne in mind. In the spring of 1925 I saw two cases which I wish at this time to report.

Case A. Boy, 16 years of age, had been well up to April 2nd, 1925, when he was seized with a pronounced rigor followed by elevation of temperature, slight nausea and general aching. Picture remained the same on the 3rd and 4th, somewhat

left hand, and following lymphatics to various glands in arm and axilla. Glands slightly enlarged and hard. Bowels constipated. Urinary output but slightly diminished; analysis showed trace of albumen, otherwise negative; morning temperature ranged 99.5 to 100.5 F., afternoon temperature 101 to 104 F. Appetite poor, patient restless and disturbed. Picture continued about the same for the following week except the glandular involvement became more pronounced and on the 15th day glands began to soften to some extent. All enlarged glands were treated by incision and drainage. After drainage pain in arm was greatly reduced and all symptoms ameliorated. Patient confined to bed until May third, when temperature returned to normal, and convalescence definitely established but it was fully four weeks afterwards before patient was able to resume his usual activities. The history in this case showed the boy had killed and skinned a cotton tail rabbit three days before the first appearance of symptoms.

Case B. Woman, 54 years of age, mother of five children, youngest 13 years of age, and incidentally, the patient here referred to is mother of the patient report-in Case A. This case ran a course about parallel with A and at the same time, there being nothing to be brought out by a complete report other than what is shown in Case A, other than that Case B had cut up and cooked the same rabbit which case A had killed and skinned. The entire family of seven ate of the rabbit but only those handling the carcass before cooking were infected. Dr. W. I. Mason saw these cases with me on two occasions and it was he who first suggested the true nature of the malady. Specimens of pus from suppurating glands in both of these patients were sent to Oklahoma State Laboratory and were examined for bacterium tularense but same were not found. However, this is the rule and it is only by guinea pig inoculation that positive diagnosis could be made from the pus. Blood specimens after convalescence was well established proved positive by agglutination tests.

Case C. Young man 24 years of age, farmer, married, complained of pain in index finger of right hand on January 4, 1928. Some swelling and almost simultaneous with pain in finger was painful areas noticed along the arm and into the axilla. General septic appearance, headache, backache, poor appetite, general lassitude, no definite vigor, temperature elevation from the first 99 to 100 F., a. m. and 100 to 103 F,, p. m. Previous history unimportant. Tongue heavily coated, dark brown, edges of tongue bright red, breath foul, some conjunctivitis. Did not get to see this patient very often and he declined to have enlarged glands incised. But about June 1, they began to break down and open through skin and establish drainage. Patient continued septic and was unable to perform any work to speak of through the entire season. In fact, in September, axillary glands were still discharging slightly. Blood specimen sent to State Laboratory September 1, gave positive agglutination test for tularemia. Francis states that the blood test during the first week is of no particular benefit. In fact his earliest case showing positive agglutination was 13 days after the initial symptoms. However, the blood test will show positive for as long as two years after recovery from this infection. The three cases here reported gave history of handling the carcass of the common cotton tail rabbit three and four days prior to first advent of symptoms. The rabbits being handled in the regular course of preparing them for food. Treatment used in these cases was simply incision and drainage of suppurating glands and tonic supportive general treatment.

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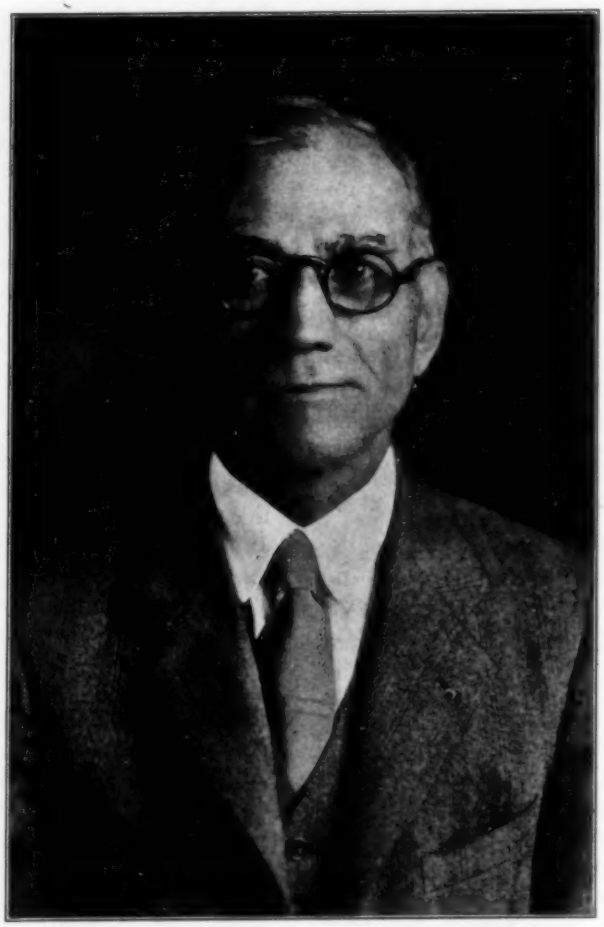

DOCTOR CLYDE W. BESON.

Dr. C. W. Beson, Claremore, appointed State Commissioner of Health by Governor Holloway to succeed Dr. O. O. Hammonds, resigned, is a practitioner of Claremore. Dr. Beson was born near Augusta, Illinois, in 1879, receiving his education in the high school at Plymouth. He graduated from the Ainsworth Central Medical School, Saint Joseph, Missouri, in 1906. For twenty years he has been located in Claremore, giving special attention to hydrotherapy.

THE JOURNAL

OF THE

Oklahoma State Medical Association

Issued Monthly at Muskogee, Oklahoma, under direction of the Council.

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DR. CLAUDE A. THOMPSON.....Editor-in-Chief
Barnes Building, Muskogee, Okla.
DR. P. P. NESBITT.....Associate Editor
Palace Building, Tulsa, Okla.

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The editorial department is not responsible for the opinions expressed in the original articles of contributors.

Reprints of original articles will be supplied at actual cost, provided requests for them is attached to manuscripts or made in sufficient time before publication.

Articles sent this Journal for publication and all those read at the annual meetings of the State Association are the sole property of this Journal. The Journal relies on each individual contributor's strict adherence to this well-known rule of medical journalism. In the event an article sent this Journal for publication is published before appearance in the Journal, the manuscript will be returned to the writer.

Failure to receive The Journal should call for immediate notification of the editor, Barnes Building, Muskogee, Oklahoma.

Local news of possible interest to the medical profession, notes on removals, changes in address, births, deaths and weddings will be gratefully received.

Advertising of articles, drugs or compounds unapproved by the Council on Pharmacy of the A. M. A., will not be accepted.

Advertising rates will be supplied on application. It is suggested that wherever possible members of the State Association should patronize our advertisers in preference to others as a matter of fair reciprocity.

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EDITORIAL

ANNUAL SESSION CLINICS

The meeting of the Oklahoma Medical Association in Oklahoma City, May 27-29, bids fair to be one of the best, if not the best, in the history of the society.

In additon to the attractive programs arranged by the various sections, a program of clinics is added. These are to be held at the various hospitals and will be one feature that must be attended if benefit is to be derived, as the ideas developed and discussed there do not appear in the Journal. Papers read in the scientific sessions and their discussions appear in the Journal, and may be read and digested and filed away for reference later if desired, but not so with the Clinics. Only what we acquire by attendance is ours, and it is here that original ideas may appear and never be found on the printed page.

Medical societies generally are featuring clinics now, more than in the past. Conforming with that trend the committee has provided a full clinic program for the mornings of the 28th and 29th. The scientific sessions of the various sections, which is the chief feature, will in no way be encroached upon.

W .W. RUCKS.

ANNUAL MEETING SUGESTIONS

HOTELS

Make your Hotel reservations early. The rates are:

Huckins — Double rooms with baths, $4.00 to $4.50; single rooms with bath, $3.00 to $4.00.

Skirvin — Double rooms with baths, $4.00 and up; single rooms with baths, $2.50 and up.

Wells-Roberts — Double rooms with bath, $4.00 and up; single rooms with bath, $3.00 and up.

Write either direct to the hotel or to Dr. L. J. Starry, Chairman, 912 Medical Arts Building, Oklahoma City, for reservations.

It is important that you make these reservations as the Legislature will likely be in session and the hotels will be crowded more or less.

PAPERS FOR THE ANNUAL SESSION

The program for the Annual Session appears elsewhere in this issue. There yet remains time enough for the contributors of these papers to cooperate greatly in making a better Journal by remembering:

1. All papers are the property of this Association and should not be carried away from the meeting for any purpose.

2. Papers should be prepared in duplicate, double spaced, with wide margins. They should be carefully reread and corrected and rewritten to the end that every possible error may be eliminated before the final release.

3. If your paper is to be discussed formally, copy or abstract of it should be sent the one who is to open discussion.

I. W. LONG

In the years past occasionally literature has been received from the above titled gentleman, offering courses in localities where "classes" of physicians might be organized, and lately the Journal has had some inquiries with reference to his activities. The Bureau of Investigation, American Medical Association, refer interested readers to page 1951, Journal, American Medical Association, December 2, 1922, in which it is stated that Long is not a physician but a publicity agent for courses in electrotherapy, diseases of the rectum, zonetherapy, spondylotherapy, etc. The gentleman also seems to have sold abdominal supporters, books on osteopathy, chiropractic and drugless methods. Long gives his address, at Columbus, Ohio, at present, but his name does not appear as a physician in any directory consulted.

Editorial Notes—Personal and General

THE AMERICAN HEART ASSOCIATION will hold a meeting in Portland, July 9, 1929.

DR. LAWSON HUGHES, formerly of Tonkawa, announces his removal to 206 Bliss Building, Tulsa.

BRYAN COUNTY MEDICAL SOCIETY met in Calera, April 9th, as the guests of Dr. and Mrs. A. J. Wells.

DR. THOMAS McELVOY, Ponca City, has returned from a three months' trip to Vienna and other European points.

DR. ALLEN C. CRAMER, Ponca City, has been appointed health officer for Kay County to succeed Dr. D. M. Cowgill.

DR. and MRS. H. A. LILE, Cherokee, have returned from a two months' trip along the Gulf coast of Florida and Cuba.

DR. G. M. RUSHING, Durant, has been appointed county health officer for Bryan County, to succeed Dr. R. E. Sawyer.

DR. C. E. NORTHCUTT, Ponca City, spent April in Rochester, Minn., where he took special work in medicine and surgery.

DR. M. SHADID, Elk City, has returned after a five weeks' absence taking a post-graduate course in New York City and Battle Creek.

DR. and MRS. F. C. REWERTS, Bartlesville, have returned from Kansas City, where Dr. Rewerts attended sessions of the Southwest Clinical Society.

DR. C. F. PARAMORE, Shawnee, who has been in the University Hospital since March 1st, following an automobie accident, has returned to his home.

DR. and MRS. W. E. EASTLAND, Oklahoma City, are in New York City, where Dr. Eastland is doing special work in dermatology and attending the clinics.

DR. GEORGE W. WEST, Eufaula, who received painful injuries when his car wrecked, due to defective steering gear sometime ago, has now resumed his practice.

THE NEW BORDER HOSPITAL, Mangum, is nearing completion The addition which is being completed, doubles the capacity of the hospital. The older building has been refinished.

MUSKOGEE COUNTY MEDICAL SOCIETY met April 8th, at which time Dr. Chas. W. Heitzman read an interesting paper upon the "Use of the Duodenal Tube." The paper was very generally discussed.

KAY COUNTY MEDICAL SOCIETY held its annual meeting April 25th at the Courthouse. Dr. Spaulding, Arkansas City, read a paper on "Tularemia" and Dr. H. M. Stricklen, Tonkawa, read a paper on "Abdominal Pain."

NOBLE COUNTY MEDICAL SOCIETY met in regular session at the office of Dr. B. A. Owen in Perry, April 9th. The following officers were elected: Drs. T. F. Renfrow, Billings, President; J. W. Francis, Perry, Vice President; B. A. Owen, Perry, Secretary-Treasurer.

McINTOSH COUNTY MEDICAL SOCIETY met at Eufaula May 7th and the following program was given: Cerebro-Spinal Fever, Epidemic Meningitis. These papers were discussed by Drs. Pearce and Bennett, superintendents of health of Pittsburg and McIntosh Counties. There was also a general discussion on Pellagra.

MUSKOGEE COUNTY MEDICAL SOCIETY met at Muskogee May 3rd to enjoy a dinner and see a moving picture showing the behavior of living tissue in vitro and the effects of radium on cancer cells; a film prepared by Dr. R. G. Canti, of London. Dr. E. S. Lain, Oklahoma City, spoke briefly upon the subject. About 70 physicians were present.

OKMULGEE-OKFUSKEE County Medical Societies held an annual all day clinic April 15th, at Okmulgee. The Surgical Clinic was conducted by Drs. W. C. Vernon, T. J. Lynch, and J. C. Rembert; the Eye, Ear, Nose and Throat Clinic by Drs. J. C. Matheney, L. B. Windham and W. W. Hicks; the Medical Clinic by Drs. C. M. Ming, W. C. Michener, L. B. Torrance and M. D. Carnell. Dr. A. L. Blesh, Oklahoma City, spoke on Goiter at the evening meeting.

SOUTHERN OKLAHOMA MEDICAL ASsociation met at Chichasha, April 18th. The address of welcome was given by Mr. Nicholas; Response, Dr. W. T. Salmon, Duncan; "Underweight Children," Dr. F. A. Harrison, Ardmore; "To whom do we owe Gratuitous Service," Dr. A. M. McMahan, Duncan; "The Recent Meningitis Epidemic," Dr. P. H. Anderson, Anadarko; "Gunshot Wound Complicated with Peritonitis," Dr. E. B. Dunlap, Lawton; Paralysis of the Ileum," Dr. J. L. Patterson, Duncan.

GARFIELD COUNTY MEDICAL SOCIETY had a guest day program April 15th. A Medical Clinic was held by Dr. David Barr, St. Louis; a Neurological Clinic, by Dr. A. W. Adson, Rochester; an Orthopedic Clinic by Dr. Wade Sisler, Tulsa. In the afternoon Dr. C. C. Dennie, Kansas City, read a paper on Hereditary Syphillis; Dr. Sam Burrows, Chicago, read a paper on Practical Points in General Surgery; Dr. David Barr read a paper on High Blood Pressure and its Significance; Dr. Wade Sisler read a paper on Reconstruction Operation in Hip Fracture; Dr. A. W. Adson read a paper on Raynaud's Disease and Allied Vascular Disturbances by Thoracic and Lumbar Sympathetic Ganglionectomy.

DOCTOR WILLIAM HUGH PRICE

Dr. W. H. Price, Eldorado, Oklahoma, died at his home April 27th, 1929.

He was born in Ashland, Alabama, July 23, 1879, and was married to Miss Abbie Walls, April 3, 1902.

Dr. Price graduated from the Birmingham Medical College in 1910, and practiced medicine in Alabama until December, 1923, when he moved to Eldorado, Oklahoma, where he continued the practice of medicine until his death.

He is survived by his wife and ten children.

As a mark of respect members of the Jackson County Medical Society, of which Dr. Price was a member, attended the funeral services in a body.

DOCTOR CHARLES P. LINN

Dr. C. P. Linn, a pioneer physician of Eastern Oklahoma, died at Morningside Hospital, Tulsa, on Monday, March 25th, of arteriosclerosis, after several months' illness. Age 68.

Dr. Linn graduated at the University of Louisville, in 1884, after which he practiced at Claremore a short time before becoming government physician to the Indians of the Seminole Nation.

He practiced among the Indians many years, having conducted a hospital at Holdenville for some time. He removed to Tulsa in 1914, and shortly after confined his work to rectal diseases, the specialty which he followed up to the time of his death.

Dr. Linn was a member of Tulsa County Society, but never very active in its deliberations on account of poor health. He was also a member of Trinity Commandery Knights Templar of Tulsa, members of which acted as an escort at his funeral.

A wife and one daughter are left to mourn his death.

Tulsa County Society deeply feels the loss sustained in the passing of this well known physician and drafted suitable resolutions upon his death.

DOCTOR ANDREW JACKSON SMITH

Dr. A. J. Smith, 74 year old pioneer physician of Pawhuska, died at his home April 5th, after an illness of several months. He was born November 21, 1855, at Marion, Illinois. Dr. Smith attended the University of Kansas, graduating from the medical school in 1897, and began practice in Ponca City. In 1906, he moved to Foraker, where he practiced two years and then moved to Pawhuska, where he had since made his home.

Dr. Smith was a member of the Masonic lodge at Pawhuska, the Consistory at Guthrie, and the White Shrine at Tulsa. He was also a member of the K. of P. and the I. O. O. F. and the Eastern Star.

He is survived by his wife and four children.

A midnight Masonic service was held April 5th. Interment made in Ponca City.

DOCTOR JAMES EDWARD WEBB

Dr. James E. Webb, 72 years old, for the last three years county physician, died at his home in Tulsa, April 12, 1929. He was born at Lexington, Missouri, in 1858, and was educated at the Missouri University and Ohio Medical College, graduating from the latter place in March, 1881.

Funeral services for Dr. Webb were held April 13th, burial being at Oaklawn cemetery. Dr. Webb is survived by a son, three sisters and one brother.

DOCTOR DANIEL F. JANEWAY

Dr. D. F. Janeway, age 77 years, a resident of Stillwater since 1889, died at his home April 21, after a lingering illness.

Dr. Janeway was born at Knoxville, Tennessee, January 6, 1854. His preliminary education was obtained at Penn College, Iowa. He graduated from Kansas City Medical College in 1884. Dr. Janeway came to Oklahoma from Angoria, Kansas, in 1889, where he had since lived.

He is survived by his widow, two sons and three daughters.

Funeral services were held April 23rd, at the First Methodist Episcopal church. Masonic burial services were held at the grave, in Fairlawn cemetery.

PROGRAM

THIRTY-SEVENTH ANNUAL SESSION, OKLAHOMA STATE MEDICAL ASSOCIATION, OKLAHOMA CITY, MAY 27-28-29, 1929

Meeting Places — Huckins Hotel, University Medical School and Hospital.

Registration — Physicians, members, must be in good standing, that is they must hold certificate of membership for 1929 before they may be registered. If you are not in good standing see your Secretary at once and arrange this matter before coming to Oklahoma City, as at that time membership will be difficult of verification.

Delegates—Should present their credentials to the Credentials Committee, preferably on the morning of May 27th, at the Huckins Hotel, the place of first meeting of the House of Delegates.

Papers—Are the sole property of the Association. Unnecessary loss of these papers or delay in their publication results when they are carried away after being read by the author. Papers should be prepared in triplicate in order that the author may always have a copy. After being read they should be left with the Secretary or Chairman of the Section and these gentlemen should see that they are delivered to the State Secretary. Before final publication of any paper proof will be submitted to the author for his correction. All papers should be typewritten, with wide margins, double spaced and each of them should contain as the first information, the title, name of the author, his address and his office building or street.

Council—Will meet at 3 P. M., Huckins Hotel, Monday, May 27th, and will meet thereafter for the transaction of business as is necessary. All matters of business should be presented to the Council and not to the House of Delegates.

The House of Delegates—Will meet at the Huckins Hotel, Mezzanine Floor, 8 P. M., Monday, May 27th, and in the auditorium, Medical School Building, 8:30 A. M., Tuesday, May 28th.

Clinics—A schedule of the Clinics was printed in the April Journal. This schedule may be obtained at the information desk, Huckins Hotel, which desk will function throughout the meeting.

Hotel and Hospital Telephones—

Huckins	3-4341
Skirvin	2-1251
Wells-Roberts	3-5421
Oklahoma City General Hospital	2-9171
St. Anthony's Hospital	7-1511
Oklahoma City Clinic and Wesley Hospital	7-3531
University Hospital	7-1511
Medical School Building	7-1511

The General Meeting—Will be held at 8:15 P. M., May 28th, Mezzanine Floor, Convention Hall, Huckins Hotel.

The President's Reception and Dance—Will be held at 9 P. M., May 29th, Huckins Hotel.

SECTIONS

All sections will convene at 1:00 P. M. Tuesday, May 28, and Wednesday, May 29th.

Exhibits—East wing, University Medical School, (*first floor*).

Eye, Ear, Nose and Throat—East wing, University Medical School (*first floor*).

Surgery—Auditorium, University Medical School, (*first floor*).

General Medicine — Assembly Room, University Hospital.

CONDENSED PROGRAM:

MONDAY, MAY 27, 1929

(*Morning*)

9:00 Golf Tournament, throughout the day.

(*Afternoon*)

1:30 Oklahoma State Pediatric Association—School of Medicine Building.

2:00 Oklahoma Dermatological Association—School of Medicine Building.

3:00 Meeting of the Council, Huckins Hotel.

(*Evening*)

8:00 Meeting of the House of Delegates —Huckins Hotel.

TUESDAY, MAY 28, 1929

(*Morning*)

8:30 Meeting of the House of Delegates —School of Medicine Building.

8:30 to 12:00—Clinics.

(See Clinical Program).

(*Afternoon*)

12:15 to 1:00—Luncheon.
—School of Medicine Building
1:00 to 5:00—Section Meetings.
—School of Medicine Building.

(*Evening*)

6:00 to 8:00—Dinners.
Medical Fraternities
—Huckins Hotel.
Oklahoma Dermatological Ass'n
—Huckins Hotel.
Women Physicians' Dinner
—Oklahoma Club.
Officers Reserve Dinner
—Oklahoma Club.

8:15 Opening Meeting
—Convention Hall, Mezzanine Floor, Huckins Hotel.

WEDNESDAY, MAY 29, 1929

(*Morning*)

8:00 to 12:00—Clinics.
(See Clinical Program).

(*Afternoon*)

12:15 to 1:00—Luncheon
—School of Medicine Building.
1:00 to 5:00—Section Meetings
—School of Medicine Building.

(*Evening*)

7:30 to 9:00
General Scientific Program of all Sections—Convention Hall, Huckins Hotel.

ORATIONS

Fractures.....Dr. Wade H. Sisler, Tulsa
Goitre....Dr. R. M. Howard, Oklahoma City
Pediatrics—"*Keep the Well Baby Well.*"
Dr. T. H. McCarley, McAlester.
"*Social Aspects of Tuberculosis*"—Dr. L. J. Moorman, Oklahoma City.
9 to 12—Reception and Dance
—Huckins Hotel.

Taxicabs will leave the Huckins Hotel, Tuesday, 7:30 A. M., for the Clinics at the Hospital.

LADIES' PROGRAM

TUESDAY, MAY 28, 1929

1:00 Luncheon, Oklahoma City Golf and Country Club, followed by a drive to points over the City.
WEDNESDAY, MAY 29, 1929
Matinee Party in Afternoon.

COMMITTEES
OKLAHOMA COUNTY MEDICAL SOCIETY

DR. ARTHUR W. WHITE, *General Chairman*

Advisory:
Drs. Le Roy Long, Sr., A. L. Blesh, R. M. Howard, Charles E. Barker, A. B. Chase, J. F. Kuhn.

Clinics:
Drs. Le Roy Long, Sr., A. L. Blesh, R. M. Howard, Charles E. Barker, P. M. McNeill, A. D. Young, John Z. Mraz, J. E. Harbison.

Finance:
Drs. A. B. Chase, Horace Reed, L. A. Riely, C. J. Fishman.

Stationery and Badges:
Drs. W. W. Wells, W. E. Dixon, G. L. Borecky.

Entertainment:
Drs. C. E. Clymer, G. Penick, D. W. Branham, W. E. Eastland, R. O. Early.

Building:
Drs. J. M. Thuringer, H. G. Jeter, L. J. Starry, Rex Bolend, H. H. Turner.

Advertising:
Drs. J. A. Roddy, L. A. Riely, A. D. Young, W. W. Rucks, J. M. Postelle, M. E. Stout.

Golf:
Drs. S. R. Cunningham, P. M. McNiell, Horace Reed, W. W. Wells, R. O. Early.

Reserve Officers:
Captain W. E. McCormick, J. A. Roddy, Floyd J. Bolend.

Fraternal Dinners:
Drs. J. P. McGee, A. C. Shuler, N. Price Eley, Rex Bolend, C. E. Clymer.

Women Physicians:
Dr. Lelia E. Andrews.

Women's Entertainment:
Mrs. S. E. Frierson, Mrs. W. K. West, Mrs. A. R. Lewis, Mrs. L. M. Westfall, Mrs. M. M. Roland, Mrs. A. L. Blesh.

Music:
Drs. Dick Lowry, Tom Lowry.

Hotels:
Drs. L. J. Starry, J. B. Eskridge, H. D. Collins, C. E. Bates.

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PROGRAM, GENERAL MEETING

Convention Hall, Huckins Hotel
MAY 28, 8:15 P. M.

Dr. Arthur W. White, *General Chairman* Presiding

Invocation—REV. SAMUEL GIBSON, D.D.

Music.

Address of Welcome—DR. LE ROY LONG, Dean, Oklahoma University School of Medicine.

Response to Address of Welcome—DR. W. T. SALMON, Duncan, Oklahoma.

Music.

Introduction of President-Elect Hendershot by the President, DR. ELLIS LAMB, Clinton.

President's Address—DR. C. T. HENDERSHOT.

Address—RAYMOND E. SCOTT, Major, Medical Corps, Fort Sam Houston, Texas.

Address—DR. IRVIN ABELL, Louisville, Ky.

GENERAL SURGERY, GYNECOLOGY, OBSTETRICS AND UROLOGY

L. J. STARRY, *Chairman*, Medical Arts Building, Oklahoma City.

RAY WILEY, *Secretary*, Medical Arts Building, Tulsa

Place — Auditorium Medical School Building.

1. Chairman's Address: *"Acute Dilatation of Stomach"*—L. J. STARRY, Oklahoma City.
2. *"Gynecology As Practiced in Oklahoma"*—GRIDER PENICK, Oklahoma City.
   A statistical analysis of a large group of cases admitted to Dr. Penick's service at University Hospital. A discussion of the kinds of treatment practiced by the various Doctors over the State as evidenced by these cases and discussion of the methods used at the University Hospital.
   Discussed by EDWARD W. FOSTER, Tulsa, and V. C. TISDAL, Elk City.
3. *"Maligancy of the Breast"*—CARL A. HAMMAN, Cleveland, Ohio.
4. *"Tumors of Urinary Bladder"*—WM. E. LOWER, Cleveland, Ohio.
5. *"Tannic Acid Treatment of Burns."*—STRATTON KERNODLE, Oklahoma City.
   Resume of treatment of burns with discussion of new methods and report of results with tannic acid method.
   Discussion by: CURT VON WEDEL, Oklahoma City; WM. ARMSTRONG, Ponca City.
6. *"Renal Colic"*—O. R. GREGG, Enid.
   Symptomatology and differential diagnosis of various causes. Presentation of cystoscopic and pyelographic findings; prognosis and treatment.
   Discussion by: REX BOLEND, Oklahoma City; MALCOM McKELLAR, Tulsa.
7. *"Clinical and Roentgenological Aspects of Chronic Appendicitis."*—MORRIS B. LHEVINE, Tulsa.
   Lantern Slides: A report of a series of cases with referred symptoms in which the X-ray findings indicated diseased appendicies; operative findings and end results. Discussion of symptomatology of the group and X-ray technique.
   Discussion by: J. E. HEATLEY, Oklahoma City; LEON STUART, Tulsa.
8. *"The Diagnosis and Treatment of Ureteral Calculi."*—H. S. BROWNE, Tulsa.
9. *"Management of Peritonitis Due to Pelvic Infection."* — D. S. DOWNEY, Chickasha.
   The technique of management of abscessed appendices and pelvic infection. Discussion of time when to operate and when best treated medically. Operative technique. Treatment in cases of general peritonitis due to extension of pelvic peritonitis.
   Discussion by: R. V. SMITH, Tulsa; REX. WALKER, Pawhuska.
10. *"Post-operative Thrombophlebitis and Emboli."*——P. P. NESBITT, Tulsa.
    Discussion by: J. HUTCHINGS WHITE, Muskogee.
11. *"Treatment of Peritonitis."*—THOMAS G. ORR, Kansas City, Mo.
12. *"Surgical Treatment of Exophthalmix Goiter."*—FRED W. RANKIN, Rochester, Minn.
13. *"Urinary Incointinence and Its Surgical Treatment."*—BASIL A. HAYES, Oklahoma City.
    History and Etiology. Later surgical development with technique used by Author. Results.
14. *"Relations Physical Variations Which Often Cause Dystocia."*—W. W. WELLS, Oklahoma City.
    Discussion by: M. B. GLISMANN, Okmulgee.
15. *"Visceroptosis and Its Relation to Abdominal Surgery."*—IRA B. OLDHAM, JR., Muskogee.
    Congenital and acquired types. Discussion of symptomatology of treatment of acquired type. Case histories and results of treatment by author.
    Discussion by: W. S. MASON, Claremore.
16. *"Electric Cautery Treatment of Endocervicitis."*—H. J. McGUIRE, Tulsa.
    The pathologic anatomy of endocervicitis. Discussion of methods of treatment with details of use of electric cautery. Comparative results.
17. *"Preliminary Report on Maternal Mortality."*—LUCILE SPIRE BLACHLEY, Oklahoma City.
18. *"Spinal Anesthesia."*—WM. C. VERNON, Okmulgee.

Section on

EYE, EAR, NOSE AND THROAT

H. C. TODD, *Chairman*, Colcord Building, Oklahoma City.

T. G. WAILS, *Secretary*, 902 Medical Arts Building, Oklahoma City.

Chairman's Address: *"What Are the Limitations in the Work of the Ophthalmo - Otolaryngologist?"* — H. C. TODD, Oklahoma City.

1. *"Asthenopia."* — CHAS. H. HARALSON, Tulsa.
2. *"Complications Following Simple Mastoidectomy."* — MARVIN D. HENLEY, Tulsa.
3. *"Chronic Dacryocystitis."* — JOHN R. WALKER, Enid.
4. *"Coloboma of the Iris Congenital."*—L. C. KUYRKENDALL, McAlester.
5. *Subject Not Announced.*—A. C. MCFARLING, Shawnee.
6. *"Recurrent Retinal Hemorrhage With Report of One Case."*—J. J. CAVINESS, Oklahoma City.
7. *"Brain Abscess Complicating Mastoiditis With Report of Case."*—J. P. MCGEE, Oklahoma City.
8. *"Bronchoscopic Treatment of Lung Abscess With Report of Case."*—J. C. MCDONALD, Oklahoma City.

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Section on

GENERAL MEDICINE

C. K. LOGAN, *Chairman*, Hominy.

P. M. MCNEILL, *Secretary*, Medical Arts Building, Oklahoma City.

1. *Chairman's Address.*—CLIFF K. LOGAN, Hominy.
2. *"Hemorrhage of the Newborn."* — CLARK H. HALL, Oklahoma City.
3. *"Malarial Treatment of General Paralysis."*—FELIX M. ADAMS, Vinita.
4. *"Pulmonary Tuberculosis."* — FRED H. CLARK, Washington, D. C.
5. *"Scientific Achievement of the Army Medical Corps."* — RAYMOND E. SCOTT, Major, Medical Corps, Ft. Sam Houston, Texas.
6. *"Neuropsychiatry and Industrial Medicine."*—ANTONIO D. YOUNG, Oklahoma City.
7. *"Relation of Physicians to the State Industrial Commission."*—JUDGE L. B. KYLE, Oklahoma City.
8. *"Bundle Branch Block."* — R. K. HARLAN, Temple, Texas.
9. *'Early Symptomology of Cardiac Decompensation."* — HERMAN FAGAN, Osage.
10. *"Post Influenzal Asthenia."* — WANN LANGSTON, Oklahoma City.
11. *"Interesting Cases in Pyelographic Study."*—SHADE D. NEELY, Muskogee.
12. *"Hypothyroidism."* — HENRY H. TURNER, Oklahoma City.
13. *"Hematuria.'*—J. W. ROGERS, Tulsa.
14. *"The X-Ray Treatment of Goiter."* —ARTHUR L. STOCKS, Muskogee.
15. *"Heart Conditions."*—A. B. CHASE, Oklahoma City.
16. *"Colitis With Special Reference to Etiology."*—L. A. TURLEY, Oklahoma City.
17. *"Influence of Diet on Cutaneous Diseases."* — C. L. BRUNDAGE, Oklahoma City.
18. *"What Shall We Tell the Patient With Syphilis?"* — E. L. YEAKEL, Oklahoma City.
19. *"The Clinical Significance of Purpura."* — LAWRENCE D. THOMPSON, St. Louis, Mo.
20. *"Enlarged Thymus."*—W. M. TAYLOR, Oklahoma City.
21. *"Meningococcic Meningitis."*—GEO. H. GARRISON, Oklahoma City.
22. *"Dental Infections."* — A. B. LEEDS, Chickasha.

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ANNUAL REPORT

OF THE SECRETARY-TREASURER-EDITOR MAY 1, 1928, TO JUNE 30, 1929:

To Members of the Oklahoma State Medical Association:

In conformity with the Constitution and By-Laws, I herewith submit a condensed statement of our affairs for the time above noted.

All books, papers, duplicate deposit slips, vouchers and other papers pertaining to our business will be submitted to the Council for their action. All financial transactions have been certified to by Hugh A. Lewis, Commercial National Bank, Muskogee.

Membership: On April 30, 1928, we had 1577 members; on April 30, 1929, we had 1584 members.

Deaths in Our Membership: Since last year's report we have had to report the deaths of the following members, or former members:

Dr. J. G. Breco, Ada.
Dr. I. A. Briggs, Stillwater.
Dr. A. W. Coleman, Davenport.
Dr. R. J. Crabill, Allen.
Dr. I. N. Cross, Cheyenne.
Dr. W. D. Faust, Ada.
Dr. J. O. Brubbs, North McAlester.
Dr. Karl Haas, Harrah.
Dr. D. F. Janeway.
Dr. A. J. Jeter, Clinton.
Dr. J. K. Lindsey, Elmore City.
Dr. C. P. Linn, Tulsa.
Dr. J. F. Messenbaugh, Oklahoma City.
Dr. H. P. Pope, Caddo.
Dr. H. T. Price, Tulsa.
Dr. W. H. Price, Eldorado.
Dr. W. P. Robinson, Sapulpa.
Dr. Mary T. Roudebush, Norman.
Dr. A. J. Smith, Pawhuska.
Dr. J. C. Taylor, Chelsea.
Dr. Z. G. Taylor, Mounds.
Dr. J. E. Webb, Tulsa.
Dr. N. D. Woods, Golden.

Medical Defense: The following cases are pending:

Creek County, No. 17817.
Tulsa County, No. .....
Kiowa County, No. .....
Okmulgee County, No. 8802.
Oklahoma County, No. .....
Oklahoma County, No. 5468.
Seminole County, No. .....
Ottawa County, No. .....
Bryan County, No. .....
Oklahoma County, No. 55,773.
Custer County, No. .....
Caddo County, No. .....
Oklahoma County, No. .....

In addition to these several cases are pending in which the status is not yet known as to wether suit has been brought or not.

Journal and Advertising: We have had a very successful year from the business standpoint, and not withstanding that we spent $621.82 more for printing the Journal this year than in the past year, we hold a net gain of $2142.93 over the total cash on hand at our report.

Without exception our advertisers are of the highest class; they well merit your support and should have it on all occasions.

The Journal: Despite strenuous efforts to gradually increase the size of our Journal, investigation shows it to be only 27 pages larger than the previous year. (This refers to the calendar years, 1927-1928); 1929 will be much larger. The difficulty lies in securing a steady flow of worthwhile original articles for publication. It is believed that our Journal will continue to increase in size during the coming year.

Finances: Herewith is condensed statement of the financial transactions since our last report:

FINANCIAL STATEMENT

The Oklahoma State Medical Association
Dr. C. A. Thompson
Secretary-Treasurer-Editor
May 1, 1929

Receipts

May 1, 1928, Balance cash on hand in bank	$ 5,022.77
Advertising and Subscriptions	6,558.11
County Secretaries	6,653.05
Interest on Time Deposits	140.00
Exhixits. Tulsa, 1928; Okla City, 1929	378.50
Total Receipts	$18,752.43

Expenditures

Printing Journal	$ 5,745.61
Miscellaneous Printing and Office Supplies	435.78
Office Rent	364.75
Telephone and Telegraph	85.10
Stamps and Postage, Office & Journal	315.96
Press Clipping	60.00
Treasurers Bond and Audit of Books	75.00
Balance Expense Tulsa Meeting	150.17
Expense Oklahoma City Meeting, 1929	18.20
Council and Delegates' Expense	505.91
Transfer to Time Deposit	2,500.00
Transfer to Medical Defense Fund	300.00
Salary, Extra Clerical Work	85.50
Salary, Mrs. Olatha Shelton	1,050.00
Salary, Dr. C. A. Thompson, Sec-Treas.	2,250.75
Salary, Dr. C. A. Thompson, 1928	200.00
Refunds	14.00
Total	$14,156.73
April 30, 1929, Balance Cash on Hand	4,595.70
	$18,752.43
May 1, 1929, Bal. Cash on Hand in Bk.	$ 4,595.70
Time Deposit, Commercial Nat'l Bank 4 Per Cent	6,000.00
May 1, 1929, Total Cash Assets	$10,595.70

THE MEDICAL DEFENSE FUND

Oklahoma State Medical Association
Dr. C. A. Thompson
Secretary-Treasurer-Editor
May 1, 1929

Receipts

May 1, 1928, Bal. Cash on Hand in Bk.	$ 152.73
Dec. 18, 1928, Okla. State Medical Ass'n	300.00
April 20, 1929, Int. on Time Deposits	120.00
Total Receipts	$ 572.73

Expenditures

Attorneys Fees and Legal Expenses	$ 250.00
May 1, 1929, Bal. Cash on Hand in Bk.	222.73
Total	$ 572.73
May 1, 1929, Cash on Hand in Bank	$ 222.73
Time Deposits, Commercial Nat'l Bank 4 Per Cent	3,000.00
May 1, 1929, Total Cash Assets	$ 3,222.73
May 1, 1929, Cash Assets Oklahoma Medical Association	$10,595.70
Medical Defense Fund	3,222.73
May 1, 1929, Grand Total Cash Assets	$13,818.43
May 1, 1928, Cash Assets, Oklahoma State Medical Association	$ 8,522.77
May 1, 1929, Cash Assets, Oklahoma State Medical Association	10,595.70
Net Gain for Year	$ 2,072.93
May 1, 1928, Cash Assets, Medical Defense Fund	$ 3,152.73
May 1, 1929, Cash Assets, Medical Defense Fund	3,222.73
Net Gain for Year	70.00
Total Net Gain for Year	$ 2,142.93

Respectfully submitted,

C. A. THOMPSON,

Secretary-Treasurer-Editor.

(Signed): H. A. LEWIS,

Auditor.

Muskogee, Okla., May 11, 1929.

Dr. C. A. Thompson, Secy-Treas.,
Oklahoma State Medical Association,
Muskogee, Okla.

Dear Sir: At the close of business April 30, 1929, the Oklahoma State Medical Association had a credit balance on our books, on open account, in the amount of $4,595.70, and a time deposit of $6,000.00, the time deposit being evidenced by the following certificates of deposit:

No. 18179, January 30, 1929 (dated)	$1,000.00
No. 18180, January 30, 1929 (dated)	1,000.00
No. 18181, January 30, 1929 (dated)	500.00
No. 19301, April 20, 1929	$1,000.00
No. 18302, April 20, 1929	1,000.00
No. 18303, April 20, 1929	1,500.00

At the close of business April 30, 1929, there was a credit balance on our books in the name of the Medical Defense Fund, on open account, in the amount of $222.73, and on time deposit $3,000.00, the time deposit being evidenced by the following certificates of deposit:

No. 18299, Dated April 20, 1929	$1,000.00
No. 18300, Dated April 20, 1929	2,000.00

Yours very truly,

E. D. SWEENEY,

Vice-President.

O.K.—H. A. LEWIS.

COMMITTEE REPORTS

These reports are made in compliance with provisions of the new Constitution and By-Laws which call for publication of such matter in the issue of the Journal preceding the Annual Session.

REPORT OF COMMITTEE ON TUBERCULOSIS

To the Oklahoma State Medical Association in Regular Annual Session at Oklahoma City, Oklahoma, May 27, 28, 29, 1929.

The Committee on Tuberculosis desires to submit for your consideration the following report, much of which is a repetition of last year's report.

In spite of the recent reduction in the death rate from tuberculosis in the United States, this continues to be the most important of all diseases, still retaining its age-long appeal because of its wide-spread incidence, its high mortality, its infectious nature, its social and economic significance.

In Oklahoma, with more than two million people, we must not fail to heed this appeal.

What are our resources?

In answer to this question, we must place the organized medical profession at the top of the list. The two thousand physicians in the state constitute our chief safeguard. All other organized agencies are either directly or indirectly dependent upon the medical profession.

The Oklahoma Public Health Association, which has been relatively inactive for two or three years, chiefly on account of limited finances, is again in the field with Dr. Carl Puckett as Executive Secretary. This organization, with all affiliated local tuberculosis societies, should have the loyal support of the medical profession. The chief function of these organizations is educational, and, if their work is properly directed, it should prove helpful to the local physician, and reflect credit upon his work. Chiefly through the influence of these organizations the child health education is carried on in the schools. This movement will ultimately prove to be one of the chief factors in the further reduction of the death rate from tuberculosis, and should have the hearty support of the medical profession.

The two state sanatoriums with a total of two hundred and seventy-five beds are constantly filled to capacity, with a waiting list of nearly one hundred, in spite of the fact that we have no definite state-wide plan for case finding. The sanatorium at Sulphur has one hundred and ten beds.

The Committee recommends:

1. That the members of the medical profession give hearty support to the State Public Health Association, and the local Tuberculosis Societies.

2. That the family physician should be the most important factor in any case-finding scheme, and that he should not only bear in mind

the importance of early diagnosis, in order that prevention and treatment may be more effective, but with the recent progress in the treatment of advanced cases he must be prepared to make a discriminating study of such cases with a view of offering every opportunity to the otherwise hopeless sufferer, and the possible control of a prolific source of infection.

3. That the number of sanatorium beds be increased to meet the recommendations of the National Tuberculosis Association, one bed for each annual death. We had thirteen hundred deaths in Oklahoma last year.

4. That general hospitals be encouraged to provide for the reception, diagnosis, and, at least, temporary care of tuberculosis cases.

(a) In justice to the sick.

(b) In fairness to the public.

(c) In order that nurses and internes may become familiar with the diagnosis and treatment of the disease.

5. That each county be compelled to cooperate with the state institutions in the care of their cases, and that they provide funds for their maintenance. The Committee also recommends that both County and State cooperate in an effort to take care of the open cases in homes where children are exposed to infection, regardless of the question of priority on the waiting list. Removing the source of infection is much more important and more economical than taking care of the children after infection takes place If new laws are necessary we recommend that these be referred to the Committee on Legislation.

6. That each county cooperate in the prompt disposal of transient cases, because of the menace to others. If it is impossible to place the responsibility upon the community where the patient formerly resided, the case should be accepted as a local obligation and handled as such.

(Signed) L. J. MOORMAN
H. T. PRICE,
(Deceased)
D. LONG

CANCER STUDY AND CONTROL

President, Secretary and House of Delegates,
Oklahoma State Medical Association:

We, your standing committee on "Cancer Study and Control" herein submit a report of the work which has been done upon cancer education since our last meeting—a large part of which was under our supervision or with our endorsement.

No state-wide, organized educational program has been undertaken though there has been a continuous quiet campaign in various localities —such as sending out leaflets and reprints prepared by the American Society for the Control of Cancer, encouraging symposiums upon the subject of cancer before county and district medical societies, and by the giving of public addresses upon cancer before audiences composed of both physicians and laity. We have been unable to ascertain the total of all such work done during the year though the major part is represented as follows:

There have been distributed throughout the state between two and three thousand leaflets upon the various phases of cancer—the majority of which booklets were edited by the American Society for the Control of Cancer, entitled "The New Idea of Cancer." This booklet is a general summary of what is known and unknown about cancer, and presented in such language that the non-medical individual can understand and appreciate. There have been ten or fifteen medical programs largely devoted to cancer, given before county and district medical societies. Ten or twelve public addresses by qualified physicians have been delivered before mixed audiences upon the subject of cancer. In each address, special emphasis has been given to early examination by the family physician of any suspected lesions upon the skin or any abnormal growths or discharges of the body.

We have recently contracted with the American Society for the Control of Cancer to furnish us the three-reel film prepared by Dr. R. G. Canti of Saint Bartholomew's Hospital of London, which is to be shown in three or more cities within our state. The exact dates have not yet been determined though will perhaps occur in the latter part of April or the first of May. This is the marvelous and much talked of film which was prepared at great expenditure of money and skill, which has so muchly thrilled and inspired physicians wherever it has been shown, both in England and in a few places within our United States. Briefly, it consists of moving pictures made of: (1) the normal cell growth and division; (2) the growth of malignant cells taken from the Jensen rat Sarcoma; (3) the same malignant cell reaction during and after it has been exposed to radium. It is expected that if this film meets with the favor which it has received elsewhere that our State Association or some other organization will desire to make such arrangements that it may be exhibited in several other parts of our state, that every physician may have its educational value.

Respectfully submitted,
(Signed) EVERETT S. LAIN
J. C. JOHNSTON
L. A. TURLEY

REPORT OF THE COMMITTEE ON EDUCATION

To the Oklahoma State Medical Association, Oklahoma City, Oklahoma, 1929:

Medical education may be defined as the intellectual preparation of students of medicine so that they may be able to investigate the problems presented by the diseases, injuries and abnormalities of human beings in an intelligent, logical, practical and useful manner. In this report the term "students of medicine" is employed in a broadly inclusive sense, and is intended to take in not only students in medical school, but all who are anxious to keep up with the advancement of medical science. The term includes particularly and emphatically practitioners of medicine.

Obviously and naturally, the medical schools establish the general standards of medical education, and these standards are in force and effect not only as they concern students in medical schools, but also, and with equal or greater

force, as they concern active practitioners of medicine, because the ranks of practitioners are constantly replenished by the output of the medical schools. This being true, your Committee desires to call attention to certain matters of importance entirely under the control of medical schools:—

1. There should be continual and persistent effort to strike a balance between pure science and practical procedure. In order to do this the teacher of the sciences during the preclinical period should point out in some reasonable way the clinical application of what he teaches; and the clinician should always bear in mind and and should emphasize the direct relation of the basic sciences to clinical phenomena.

The physician worthy of the name is of necessity a scientist. In the immediate future this will be more true than it has been in the past, because it is more and more apparent that many clinical phenomena cannot be explained without technical scientific information.

Therefore, both preclinical and clinical preparation are indispensable. Either employed alone is but of little service in the intellectual preparation of the student. By giving to each its propepr value and by carrying them out together, the medical school lays the foundation for the making of a useful member of the medical profession.

2. The majority of medical schools confer the degree of Doctor of Medicine after the successful completion of the ordinary course of four years, without requiring the student to have supervised clinical training before receiving his diploma. This your Committee believes to be an error because it is manifest that a student is not able to successfully assume the responsibilities of an independent practitioner of medicine until after he has supervised clinical training. An additional and important reason for correcting the error is the uniform practice of medical schools to grant to the graduate a diploma in which it vouches for his adequate training in all the branches of medical science. The usual interpretation of the language of the diploma is that the holder is fully prepared to undertake any technical procedure, regardless of its complexity, gravity or danger to the patient. Under this rule, it is possible for the graduate, without any special preparation, to undertake the performance of dangerous surgical operations or other highly technical and dangerous procedures. Not only is it possible, but it is actually done by many physicians whose only training is what they have observed in class while in medical school. Not only do these untrained graduates undertake surgical operations that they are not prepared to perform, but they undertake the performance of many entirely useless operations because they do not have the ability and judgment, that can be gotten only by special training, to differentiate between those who need and those who do not need a surgical operation.

Your Committee believes that this situation should be corrected by medical schools through withholding the authority to perform elective technical and dangerous surgical operations until after the student has had special training approved by the school. In support of this, your own medical school has, in a recent meeting, recommended that, beginning with the class graduating in 1933, the diploma be withneld until the completion of at least one year of supervised clinical work in hospital.

The State might control the situation by law, but your Committee believes that it is nevertheless, a responsibility that rests upon the medical school, because the school, better than any other agency, knows the qualifications and the weaknesses of its students.

In this connection your Committee wishes to point out the necessity of applying scientific and clinical knowledge, together with ethical procedure, in the investigation of patients seeking aid at the hands of members of the profession. For example, your Committee happens to know of a fifty bed hospital where a far greater number of radical operations on the stomach were performed during a certain period than were performed by two other hospitals with an aggregate bed capacity of between four and five hundred. If the Biblical expression, "In a multitude of counsel there is wisdom," means anything this circumstance seems to indicate the need of inquiry from a rather broad educational point of view.

Apparenntly, the medical profession of this State is coming to be a very aggressive profession. It is industriously aggressive. There is a distinct tendency to spend time and money for the purpose of acquiring information. This is well, but your Committee would like to endorse the proverb, "Prove all things; hold fast that which is good." This is a commendable and useful course at any time; now such a course seems almost necessary, because it is pretty clear that many commercial concerns, apparently so assiduous in their efforts to educate the profession are, in fact, so much interested in the goods they are trying to sell that we should at least be excused for not enthusiastically endorsing their assumed role as teachers of the medical profession. Education is needed, but it should come from sources entirely removed from the realm of commercial influence. Fortunately, it is not only possible but easy, in the United States, to reach such sources, because they are represented by various councils created by the American Medical Association. With such effective and ethical machinery within our reach we should have no difficulty in securing definite and reliable information.

Since it is made up entirely of members of the faculty of the medical department of the University of Oklahoma, your Committee wishes to do no more than to call attention to the progress of our own medical school. For nearly ten years it has been an "A" grade school, and now there is not the least doubt about its standing, its importance, its influence. It is in all respects a stable institution. At this meeting the members of the Association will have opportunities to see something of its work and its facilities. If investigation shows that it is rendering a service of importance to the people and the medical profession of the state, your Committee presents it for your approval, endorsement and support.

Finally, your committee wishes to call attention to the great Code of Ethics of our profession. This code comprehends the duties of physicians to their patients and to each other. If its precepts were followed, no intentional wrong would be done, no mistakes would be made when within the power of individual members of the profession to prevent them. No helpless human being would call in vain for succor. There would be no selfishness, no rancor, no strife. This Code we commend, because in it is

contained the essence of all that is vital and good. We commend it because it is the firm foundation upon which all medical education should be built.

LEROY LONG,
Chairman
GAYFREE ELLISON
ARTHUR W. WHITE

COMMITTEE ON CONSERVATION OF VISION

Blindness is a world wide catastrophe so disastrous in its results in many parts of the world that returning travelers from the Orient usually have as their most vivid picture a memory of groups of blind beggars strolling through the streets. There are at least six million blind people scattered throughout the world and many times this number of the near-blind, seriously handicapped by their poor vision.

There are many organizations attempting to fight this catastrophe and the prevention of blindness has become more or less the concern of every public health agency and the entire medical profession throughout the world. People have commenced to realize more and more that most blindness is unnecessary.

The prevention of blindness is essentially a health problem and all organizations in this line realize that they must secure not only the co-operation of practicing opthalmologists and general practitioners but also of those that are engaged in the more general aspects of public health.

Conserving sight should commence with the child and what is usually referred to as "getting the child ready for school" includes the protection of all visual errors or diseases, conditions which may result in harm to the eyes or health of the child. This is but the beginning; however, back of this we must go to the school room and see that it is properly lighted; that is, one-fifth or preferably one-fourth of the floor area should be represented in glass lighted area, a buff painted wall with a lighter coloring of cream or white for the ceiling, flat finished, and all furniture and woodwork finished flat without gloss to diffuse light evenly and prevent glare.

Next comes the arrangement of seats in relation to windows. The newest idea opposes having the seats arranged in rows parallel with the left side banked windows because such seating gives glare and eye discomfort to many near the windows and on the rear seats. The newer procedure provides for an entirely different arrangement of desks; a diagonal arrangement so that the light is properly received over the left shoulder, the child facing an inner corner of a room rather than a flat wall in the front of the room. Eye-ease and comfort are thus obtained and daylight is used to its best advantage. The teacher, in co-operation with the janitor, may do much to develop proper eye habits by adjusting the seat and the desk to proper height for comfort and reading at the fourteen inch distance, while maintaining a correct posture.

Another important feature in obtaining eye comfort is the regulation of natural light by the use of the proper type of window shade. The one recommended is the translucent, buff colored shade, operating from a double roller placed in the middle of the window; one part rolling up and the other down. Care should be taken that the two rollers are placed so close together that no streak of light comes through the sections and the shade should be wide enough to admit of no light coming in at the side of the window. Arrangement should be made for artificial lighting which may be used on dark days so that the child can continue his work as well as he could with sunlight.

It has been the theory for years that light should be excluded from the room occupied by a patient suffering from measles but the National Society for the Prevention of Blindness have taken this matter up and recommend the following to avoid eye complications during measles:

1. Banish fear of light in the measles sick-room.
2. Seek eye comfort with adequate light and an abundance of fresh air.
3. Strive for extreme cleanliness.
4. Place the head of the child's bed toward the window.
5. Arrange artificial lighting equipment so that during the few hours that artificial light may be required no possible glare may annoy the patient.
6. Follow out the physician's directions.

Impaired vision and blindness as a result of venereal diseases are rapidly becoming eradicated, principally through the medical and health societies and also the education our army received during the world war and it is now an uncommon thing for us to have eye diseases of venereal origin, although it has been only a few years since there were a great many of them.

Large corporations employing hundreds of men find that their employees are much more efficient if they can do their work in a building with proper lighting and fresh air.

In summing up the Conservation of Vision, your Committee wish to lay special emphasis upon the following:

1. Prevention of eye infection of babies.
2. Examining eyes of children when they are ready to enter school.
3. Caring for the school children's eyes and eliminating all hazards in industrial workers.

E. S. FERGUSON,
Chairman
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W. ALBERT COOK.

REPORT OF COMMITTEE OF STATE MEDICAL SOCIETY ON CRIPPLED CHILDREN

The Committee met officially October 28, 1928 and passed upon the following:

The purpose of the Committee shall be,

1. To study the problems which concern the medical profession in respect to the care of crippled children.
2. To recommend and pass judgment upon procedures of the Oklahoma State Society for the care of crippled children so far as such measures relate to the medical profession.

3. To act in the capacity of advisors on behalf of the medical profession upon legislative measures, hospitals, clinic, and so far as such activities pertain to the care of crippled children.

The State Society for Crippled Children, represented by its secretary, Joe N. Hamilton, met with the committee and made requests for assistance upon the following activities.

1. To endorse the clinics for the examination of crippled children as they have been conducted by this Society for the past three years.
2. To approve form letters and publicity which are sent out announcing each clinic.
3. To approve the method of advising and obtaining treatment for the cases which may be benefitted by hospitalization.

The committee reviewed all such forms and methods as they are now being carried out and voted its approval. The forms and methods referred to are as follows.

1. A form letter to doctors of the community announcing the clinic in a certain locality in which the name of the orthopedic surgeon is announced, and an invitation is given to the local doctors to attend and assist.
2. A form letter to the school teachers, ministers, civic clubs, lodges, in which the names of no doctors are mentioned but which describes the type of cases expected, where the clinic is to be held and the date of the clinic.
3. A letter to the parent of the crippled child which has been examined, stating what the examining doctors recommend in the case and naming institutions to which the child might be taken for treatment.

The Committee passed favorably upon these measures.

Further request was made by the secretary of the Society that the Committee assist in the following:

1. Prepare and approve articles upon subjects relative to crippled children which might be used in educational matter to the public.
2. That this committee assume the responsibility of informing the profession of the state as to the crippled children's law and methods of putting them into effect.

EARL D. McBRIDE

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TUBERCULOSIS

Edited By

L. J. Moorman, M.D. and Floyd Moorman, M.D.
912 Medical Arts Bldg., Oklahoma City

A Case of Tuberculosis of the Pubic Bone. G. Serra. Arch. Italiano di Chir., xxi, 57, Apr. 1928.

The case notes refer to a youth of fifteen years. The first symptoms began at the age of eleven years, after an injury, and coincided with the formation of abscesses in the postero-internal region of the right thigh in the trochanteric region; never fever, and no articular rigidity of the hip. The abscesses, treated originally surgically, developed fistulae resulting in a state of profound cachexia. In this condition and with severe limitation of the function of the ankle, the patient came under the observation of the author. For a long time conservative treatment was tried, which gave very slight improvement. A sequestrotomy of the pubic bone was then done. The operation was successful so that the fistulae healed. The general condition became good and walking fair.

The author dwells upon the radiographic diagnosis which was possible by the aid of injections of dense paste through the fistulous tracts. In regard to treatment, he holds that waiting may be useless when concerned with extensive lesions and complicated with fistulae and sequestra and that conservative treatment may be useful only in the recent cases. In order not to interrupt the pelvic girdle which would cause irreparable damage, the author insists that the resection should be done as economically as possible.

Changes From Pressure On The Articular Cartilage In Experimental Unreduced Dislocations of the Hip. E. Polacco. Arch. Italiano di Chir., xxi, 85, Apr. 1928.

For the purpose of studying the endurance of the articular cartilage exposed to pressure in a non-physiological site the author performed a series of experiments upon the rabbit. The animals were always very young, (from two to four months). The author affected dislocation of the hip joint, made sure that reduction did not occur and finally left the animals free until ambulation produced a traumatizing action upon the femoral head. The animals thus treated were twenty-four; the duration of the experimental period from a minimum of eleven days to a maximum of four months. The animals were periodically radiographed.

The author reports of his experiments both the macroscopic aspect of the femoral heads and the results of histologic studies which were pursued. From the total of the experiments the author concludes that pressure in a site not physiologic causes, in the diarthrodial cartilage, changes more or less profound, which are situated always at the point where the traumatizing stimulus is most markedly felt. The alterations, macroscopic as well as microscopic, were much more severe in those cases in which the luxation was of longer duration; here the subchondral medullary spaces were found open and in communication with the joint cavity. In some cases there existed indication of fibrosis of the marrow.

The bone tissue has a tendency to proliferate and to become eburnated at the point of underlying the degenerated cartilage. The alterations observed, although not being equal to those of osteitis deformans, may, according to the author, be the basis for the secondary development of deforming osteo-arthritis when concomitant causes aid it.

Clinical Contribution to Arthroplasty of the Elbow. Anglesio. Gior. d. R. Accad. di Med. di Torino, lxxxix, 135, 1926.

A schematic description of four arthroplasties of the elbow.

The first is for an ankylosis secondary to a rheumatic polyarthritis. The arthroplastly was

done with interposition of fascia lata. Two years after the operation, flexion and extension were normal.

The other three observations refer to post-traumatic ankyloses. The first case: A man of forty-eight years, ankylosis following a severe fracture of the lower extremity of the humerus. Two years from the operative intervention, flexion was possible to an angle of 50 degrees, extension to 140 degrees, supination through an angle of twenty degrees.

The second case: A man of thirty years, ankylosis at right angle from a fracture of the epicondyle. Eighteen months after the operation, a normal amount of flexion was possible, extension to 170 degrees, supination limited.

The third case: Ankylosis following a comminuted fracture of the inferior epiphysis of the humerus. One year from the intervention, all movements were possible to a normal degree.

In the cases reported by the author, healing of the operative wound was by the first intention, and mobilization exercises were started on the eighth to the tenth day and continued for two or three months. All the patients at the end of that period were able to return to their regular occupations. The author, comparing the fibrous tissue interstition with the subperiosteal resection of the method of Ollier, prefers the fibrous tissue method because the results are more satisfactory and the mobilization easier and the period of re-education briefer.

Myofascitis From an Orthopedic Standpoint. Fred H. Albee. J. Am. Med. Assn., xcl, 1364, Nov. 3, 1928.

Myofascitis is a local inflammatory reaction in the muscle fascia, with symptoms referable to the fascial attachment to bone. The source of toxemia is from the colon in ninety per cent of cases. Frequently, when a primary focus is removed at the tonsils, the teeth or elsewhere, there has already developed a metastacit infection in the colon which may prolong the myofascitis unless treatment is directed to restore normal function in this organ. One hundred and sixty-four cases of myofascitis have been treated and another one hundred examined.

The diagnostic sign is pain at the insertion of fascia to bone, when tension is made, and the presence of tenderness if the point can be reached. Many cases are erroneously diagnosed,—sacro-iliac strain, lumbago, occupational strains, neurosis, etc. Patients with indefinite low-back pains or symptoms to this character referable to other points should be examined for all sources of infection and particularly for evidence of abnormal colonic function. The stool examination in the myofascitis cases show typically acid reaction, low percentage of colon bacilli, decrease of gram-negative flora, histamin in large quantities, and frequent evidences of mucous colitis.

Treatment is local and general. Measures that relate directly to colon infection are first to cleanse the bowel by medicated irrigations, followed by colon bacilli implantations. With proper diet, eliminating sugars that are disturbing, and restricting meats and proteins, the colon will function normally and the outcome in many cases will be striking.

EYE, EAR, NOSE and THROAT

Edited by Jas. C. Braswell, M. D.
1109 Medical Arts Bldg., Tulsa

Aseptic Cavernous Sinus Thrombosis, Todd, H. C.: Arch. Otolaryngol. 1928, viii, 138.

Todd states that lateral sinus thrombosis is the result of extension by contiguity of tissue. Following inflammatory processes within the temporal bone due to infection, the membranous sinus becomes surrounded by inflammatory tissue and frequently lies in a pool of pus. The inflammation then involves the vein, causing the intima of the vessel to throw out a sticky exudate which picks up the red and white blood corpuscles and other constituents of the blood and forms an aseptic thrombus. If the pus is not removed by prompt operation, the vessel walls soon soften. When this occurs the surrounding bacteria readily penetrate them and the thrombus becomes infected. A new syndrome is then presented and the blood picture is that of bacteraemia. If operation is not performed at this time, the infected thrombus begins to break down and the symptoms and blood picture are those of septicaemia.

Todd believes that all lateral sinus thrombi are aseptic during the formative period, and that lateral sinus thrombi are not formed as the result of the direct passage of micro-organisms into the lateral sinus or of an infected embolus into the sinus.

He reports a case in which the patient developed first a mild infection of the sphenoid sufficient to cause inflammation of the contiguous cavernous sinus and the intima of the cavernous sinus threw out sufficient exudate to pick up the red and white blood cells and blood platelets to produce a thrombus. However, as the sphenoidal sinus has a rather large opening for natural drainage and sphenoidal infection always tends to become cured spontaneously, resolution took place before the infection had broken down the membranous walls of the cavernous sinus and allowed the bacteria to infect the thrombus.

The Histopathology of Mastoiditis, Stewart J. P.: Proc. Roy. Soc. Med., Lond., 1928, xxi, 1743.

In his discussion of mastoiditis, Stewart includes not only inflammation of the pneumatic cells in the mastoid bone proper, but also all extensions into neighboring bones.

The initial change in the directly infected zone is a local rise in the blood pressure causing a dilatation of the vessels in the haversian systems and hyperaemia of the muco-endosteum.

The next stage is characterized by osteoclasis in the haversian systems.

The third stage is the period of active rarefaction of the bony wall of the pneumatic space by osteoclasts and perforating vessels. This is due to the new pressure conditions.

The fourth stage consists in the regeneration of destroyed tissue by new bone formation.

The whole inflammatory process is subject to phase-change which may alter it from a condition of exudation with an increase in the intravascular pressure into a more proliferative condition.

Both the disease and the regenerative processes progress from within outward.

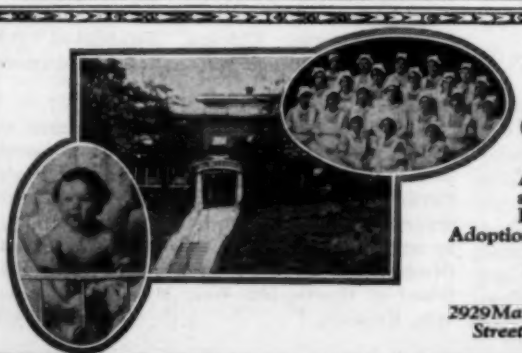
The Hoffmann-LaRoche Chemical works have secured a tract of land at Nutley, New Jersey, 12 miles from New York City and are there erecting their new laboratories. Ground was broken with appropriate ceremonies last November and the construction work has been pushed with such vigor that it is hoped the company will be able to move from their present quarters 19 Cliff Street, New York City to New Jersey early in May. Dr. Emil Barell, Director of the Hoffman-LaRoche activities in Europe, was present at the November ceremonies and turned the first shovel full of earth. Mr. Elmer H. Bobst, General Manager of the company made an address full of hope and faith in the growth and success of the Roche organization.

This company manufactures a large number of Council accepted products that are advertised in the official State Medical Journals and readers of this Journal will naturally be interested to know of the new developments which make it possible for the Hoffmann-LaRoche Company to greatly increase their production. This has been their dream and now the dream has come true.

Edward L. Keyes, New York (Journal A. M. A., Feb. 4, 1928), insits that the clinical malignancy of bladder tumors must be distinguished from their cellular malignancy. Before the advent of the cystoscope and the high frequency current, bladder papillomas were clinically malignant. Now they are clinically as well as pathologically benign. Today one may ask of a treatment for bladder tumors that it shall control papillary carcinomas as well. In order to accomplish this, the treatment must permit bladder suture without drainage, so that tumors or portions of tumors that have been overlooked or not destroyed may be identified by cystoscopy and biopsy within a month after operation. For the intelligent interpretation of operative results, it is also essential that a single therapeutic measure (knife, electric cautery or radium) shall be employed to destroy each tumor. Radium seeds of metal, implanted through a cystoscope or by open operation and aided by fulguration or further cystoscopic or operative implantation, fulfil these indications. Repeated implantation of numerous metal seeds, however, produces sloughs, and results in grave bladder spasms, just as the glass seeds used to do.

State Board of Medical Examiners, meeting at Oklahoma City, March 12th, passed the following applicants:

Name	Year of Birth	Place of Birth	School of Graduation	Year of Graduation	Home Address or Previous Location
Allen, William P.	1858	Eagletown, Ind.	Physiomedic Ind.	1895	Oklahoma City
Boyer, Herbert Luther	1886	Harmony, Ark.	Univ. of Arkansas	1911	Ft. Towson, Okla.
Butler, Osee C.	1886	Grapevine, Ark.	Univ. of Arkansas	1917	Seminole, Okla.
Canada, Ernest Adolph	1898	Independence, Miss.	Univ. of Tennessee	1925	Ada, Okla.
Cole, William Cleveland	1869	New Windsor, Ill.	Creighton	1901	Boynton, Okla.
Daily, Henry Jackson	1874	Millersburg, Ky.	Southwestern Homeo	1903	Oklahoma City
Fulcher, Joseph	1899	Ola, Ark.	Univ. of Tennessee	1926	Tulsa, Okla.
Garrison, George Harry	1898	Pearl, Ill.	Washington Univ.	1924	Oklahoma City
Grant, Shelley Clair	1883	Clay Brook, Tenn.	Gate City Med.	1903	Seminole, Okla.
Harbison, Edgar Frank	1901	Harrell, Texas	Vanderbilt	1927	Oklahoma City
Hetherington, Albert J.	1874	Trenton, Mo.	Tulane Med.	1907	Oklahoma City
Kemmerly, Harry Paul	1901	Perry, Ark.	Univ. of Arkansas	1928	Tulsa, Okla.
King, Louise Smith	1895	New York, N. Y.	Columbia Univ.	1923	Lawton, Okla.
Starr, Norman Smith	1888	Paris, Ill.	Univ. of Michigan.	1915	Oklahoma City
Favy, Chester Arthur	1882	Greensburg, Ind.	Univ. of Indiana	1911	Terre Haute, Ind.
Peterson, Edward Nohl	1900	Florence, Wis.	Univ. of Minnesota	1925	Tulsa, Okla.
Trice, Spencer Talley	1896	Nashville, Tenn.	Vanderbilt	1924	Seminole, Okla.
Veazey, John Hobson	1901	Texas	Univ. of Texas	1926	Madill, Okla.
Barker, Robert Eugene	1874	Jumping B'ch, W. Va.	K. C. Med.	1900	Kansas City, Kans.
Bryant, F. V.	1871	Henderson, Tenn	Hering Med.	1905	Martins Mill, Tenn.
Fowler, L. W.	1876	Teal, Mo.	American Med. Col.	1899	El Dorado, Kansas
Gentry, Marvin C.	1903	Ava, Mo.	Washington Univ.	1928	Oklahoma City
Goodwin, Rufus Q.	1893	Salem, Ark.	Univ. of Colorado	1928	Oklahoma City
Gordon, Douglas M.	1901	Toronto, Canada	Univ. of Toronto	1927	Oklahoma City
Hudson, David Venable		Sinchang, China	John Hopkins	1923	Tulsa, Okla.
Moore, Hiram Dunlap	1886	Plymouth, Vt.	Rush Med. Col.	1928	Norman, Okla.
Randall, Osmer Samuel	1901	Fort Worth, Texas	John Hopkins	1927	Oklahoma City
Davis, John Pearson	1900	Lexington, Tenn.	Rush Med. Col.	1927	Mangum, Okla.



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